

A decorative border with a repeating floral motif surrounds the central text. Above the border is a large, ornate decorative ornament.

PAINTS

PITTSBURGH PLATE GLASS
COMPANY

A decorative ornament, similar to the one at the top, is positioned below the text.A circular seal is located at the bottom of the page. It contains the text "PITTSBURGH PLATE GLASS COMPANY" around the perimeter and a central illustration of two figures, possibly representing industry and commerce.

PAINTS, VARNISHES AND
BRUSHES



PAINTERS, PAPERHANGERS AND
GLAZIERS SUPPLIES

PAINTS VARNISHES AND BRUSHES

THEIR HISTORY
MANUFACTURE AND USE

PAINTERS, PAPERHANGERS AND
GLAZIERS SUPPLIES



1923
PITTSBURGH PLATE GLASS COMPANY
PITTSBURGH

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INTRODUCTORY NOTE

SERVICE to the dealer and through him to the ultimate consumer, service far beyond the ordinary in sincerity and in helpfulness, is the objective of the Pittsburgh Plate Glass Company. From its foundation, this Company has worked to the very highest ideals of quality in production. As difficulty after difficulty was surmounted, ideals achieved became traditions to be lived up to.

After mastery of process, the huge problem of distribution was solved in its turn—solved as all other problems have been. “How best to serve?” That was the touchstone. The unexampled Warehouse System was the answer.

In the course of time it became clear that Service such as this Company was determined to render to the building trade held new requirements. Paints and glass are related lines, distributed through identical trade channels: sound policy dictated their unification in the source of supply. So it has come about that although plate glass manufacture, as a successful American industry, is only forty years old, yet during more than half of that period this Company has been also a leading maker of paints, varnishes, enamels, and painters’ brushes of the highest quality. Consistent Service required it.

This book is inspired by the same intent to serve to the best of our power those whose satisfaction is our success. The history of Paint, and Varnish, and Brushes, and their manufacture merit more extended notice than limitations of space will allow; but this is a practical book. There is a Pittsburgh Plate Glass Company product for every surface-protective use. Architect or contractor, dealer or owner will find his exact needs, as to any specification whatsoever, matched by a definite description and promise of performance.

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THE MANUFACTURE OF PAINT



THE ORIGINAL PAINT MAKER



THE ORIGIN AND FIRST USE OF PAINT

PAINT was used first, in the palæolithic age, for pictorial purposes. This was long before historic times—probably not less than fifty thousand years ago. The records on which modern historical theory is based were gathered in connection with discoveries made in France, Spain, and Italy. Other evidence of prehistoric paint-making has been found among ruins in Arizona and Mexico, but few deductions have been drawn from these specimens, as history has no record of the mysterious races who inhabited those regions.

In 1879 a Spaniard living at Altamira was exploring a cave on his estate when his little daughter discovered under a low shelving rock, not readily accessible to an adult, a series of drawings of prehistoric animals painted on the stone ceiling of the cave. Science connects these with the animals which roamed over Europe during the Stone Age, and it is probable that these drawings were made during that period.

These pictures were painted in three colors: red, black, and yellow—pigments that must have been made from earths and char-

coal. In a certain stratum of earth, which has been identified as the surface soil during the Stone Age, there is a quantity of yellow and red ochre. The black pigment might have come from ashes or from a black earth.

The prehistoric artist, by thus mixing ochre, red or yellow, with water, was able to make a practicable paint for his purpose.

Other paintings similar in nature to those in Spain were discovered in 1881 in a cave at Pair-non-Pair, Gironde, France; also in the Cave of Gourdan, Haute-Garonne, France. All these caves were sealed, until their discovery during the Nineteenth Century, with layers of earth and gravel, which undoubtedly is what has preserved the paintings until the present time. Those that have been exposed to the atmosphere show the destructive effect of dampness on the coloring.

Paintings representing prehistoric animals and, in a few instances, pictures of prehistoric men, have been found at Oued Safsaf, in Algeria. Apparently these were done with a sort of red dye, probably obtained from the juice of a berry.

In America also, drawings have been

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found, in rock shelters and in caves, which were made in practically the same manner as those in Spain and France, by mixing with water the yellow and red ochre obtained from the soil. It was even possible to obtain a green whenever "terre verte" (glauconite), a colored earth, was to be found.

Worthy of note is the fact that the colored powders from which this primitive paint was made were kept in tubes, much as tubes are used for paints today. The palæolithic tubes were made from horn or bone hollowed out.

Paint is known to have been used by the Egyptians as early as 8000 B.C. Coming down to a much later age, we find that by 3500 B.C. painting had attained the dignity of an art, and numerous colors were in use. Most of these colors were easily manufactured from earthy materials found at that time in Egypt and the surrounding territory. Palettes of slate also were in use among the Egyptians, as well as "mullers" for smoothing down the paint after it had been applied.

Paint-making in early Egypt made its first notable advance through an allied art, when it was found that potter's clay changed color in the process of baking. Through this discovery, in addition to the reds and yellows made by mixing crude ochre with water, the Egyptian artists found themselves able to make green, blue, and black by grinding up pottery that had cracked in the fire, taking the glaze put on by heat, and mixing it with water to obtain new colors.

Black was obtained in other ways: Lampblack was just as common then as now, and the mixing of a little gum arabic with the water caused the particles of lampblack to remain suspended in the liquid, thus forming a

very good paint. The Egyptians found also that it was possible to produce a black powder for coloring matter by charring and grinding young vines and peach stones. White paint was made in much the same manner, using chalk instead of lampblack.

One of the most interesting colors used in the ancient world was "azurite," or ultramarine blue. This is a delicate and beautiful blue, as much prized today as it was in the earliest history of painting. It was made by breaking up lapis lazuli into small fragments, then separating the chips and grains of blue color that appear in the rock, grinding them to a powder, and sifting to obtain the pure coloring matter. This material, suspended in a medium consisting of water and gum arabic, or occasionally of water and the white of egg, produced a blue paint unrivaled in its delicacy of color. Although ultramarine is manufactured today by chemical processes, modern artists sometimes prefer the old-time color because of its superior quality. Painters of the Italian Renaissance made extensive use of "azurite," and had it prepared in a very careful manner in their workshops. According to one of the early Italian artists, it was found wise to permit only old women to work on the making of paint from lapis lazuli because of their great patience and care in handling the material.

Another interesting color was murex, or the royal purple of Tyre. The color derived its name from that of the small fish from which it was obtained. In the waters of the Mediterranean off Phœnicia these tiny fishes abounded. Within the head of the fish was found a secretion that could be converted into this wonderful dye.

THE ORIGIN AND FIRST USE OF PAINT

At one time murex was largely manufactured and used throughout the ancient world. Besides being a beautiful color, it had remarkable preservative properties. It was not purple as we understand that color today, but a rich, heavy crimson, that came to be used everywhere as the color of royalty. The "purple and fine linen" mentioned in the Bible refers to murex, and indicates the value it had for the people of those days. The secret of making Tyrian purple died with the vanishing of the Phœnician race.

Before 1500 B.C. the art of painting had come to be fairly well developed in Crete. In the unearthed remains of the Palace of Cnossus, as well as in the Labyrinth built to house the Minotaur, are to be seen today examples of the art of painting as practiced by the Cretans. The colors they used were practically the same as those found in Egypt in that period, and most of them might well have been obtained from that country, since they made use of a color known as "blue frit," manufactured only along the Nile, by grinding up pottery that had been fire-coated with a copper glaze. One pigment, however, a deep, perfect black, was the Cretans' very own, and rendered their paintings distinctive; it seems to have been made from carbon. This black can be seen in frequent and highly effective use on remnants of ancient Cretan pottery. Many years later it was imitated with much success in the wall frescoes of Pompeii. The Cretan artists made their white from lime, probably obtained from marble. Marble was widely used in the architecture of ancient Crete and Greece.

At the same time, 1500 B.C., painting

had reached an advanced stage in Egypt. By that time the Egyptian artists had increased the number and variety of their colors almost to equal those of the present day. About that period, several colors were imported from India, of which madder was one and indigo another. From the madder root they were able to make the paint known to artists as madder lake, besides other "lakes" from other sources; in like manner various shades of red, violet, and brown also were derived from madder.

Egypt not only made great strides in the discovery, manufacture, and use of colors, but about 1000 B.C. the Egyptians developed another material which added immeasurably to the value and permanence of their art. This was varnish. The acacia tree grew in abundance in Egypt and from its sap, gum arabic was made. Trees growing in the Libyan forests gave forth resin and this resin was used extensively in the manufacture of varnish. Beeswax also came to be used as a varnish, and, mixed with dyes, was used likewise in pictorial art.

The paintings in Egyptian palaces and tombs, and on coffins and mummies, invariably were protected with varnish. This has preserved the paintings to this day, especially in cases where sepulchres and galleries were choked with the sand of the Sahara so that the outer air could not come in contact with and affect the decorations. The strength and permanence of the Egyptian colors and varnishes have made it possible for us to know and study the civilization of the Nile; the history of Egypt is written in its art. From Egypt the Romans learned much of what they knew of painting. With

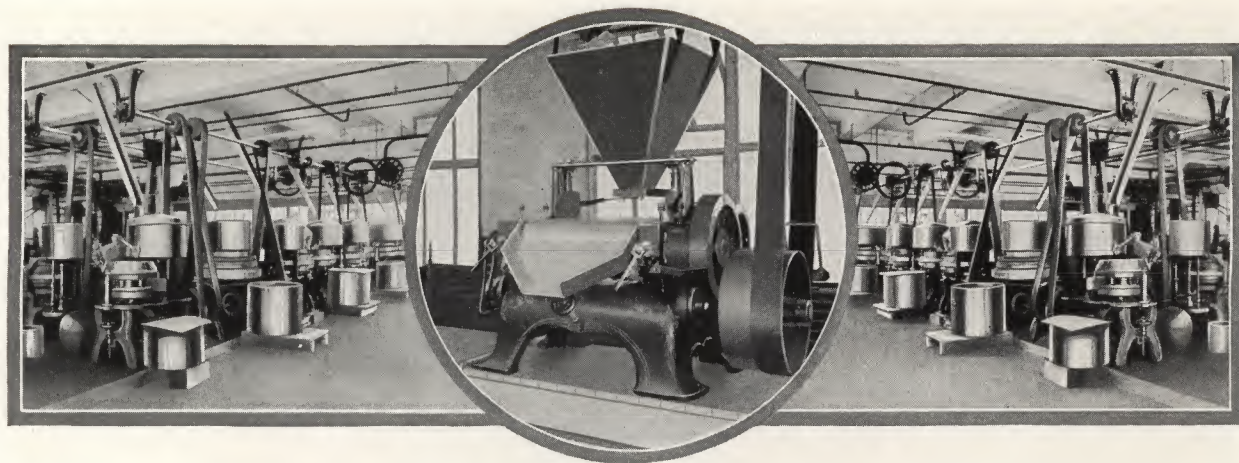
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few exceptions the Roman artists made use of the same colors, produced by the same methods used by the Egyptians. Relics of classical Roman art were discovered when Pompeii was unearthed in the Eighteenth and Nineteenth Centuries.

Still later, the same methods and materials were employed by the early Italian artists. Before the Renaissance, however, the Italians developed new colors and abandoned some of the primitive Roman pigments, so that when the great artists of Italy appeared, they were able to use tempera and oils in much

the same way these two media of art are used today. The paints were prepared with the greatest of care, and the varnishes and oils used in the mixing of colors received equal attention. Some of the materials that the Egyptians used, indeed, have not been superseded even in the modern composition of coloring material. Linseed oil was used then as it is today; a color similar to cochineal was obtained from a small tree insect; in fact, there are many points of identity in composition between ancient paints and varnishes, and like materials of the present day.





PROGRESS AND DEVELOPMENT IN THE MANUFACTURE OF PAINT

P AINT has been defined as: "Any liquid or semi-liquid substance applied to any metallic, wooden, or other surface to protect it from corrosion or decay, or to give color or gloss, or both these qualities, to it."

Speaking more explicitly, paint is a mixture of opaque or semi-opaque substances (pigments) with liquids, which may be applied to surfaces by means of a brush, or a painting machine, or by dipping, and which has the property of forming an adherent coating thereon.

In analyzing the development of paints from the earliest times, what strikes one most forcibly is the dominating position that certain materials have maintained up to the present time. Among these may be mentioned iron oxide, sienna, umber, ochre, white lead, and linseed oil. A superficial investigation might lead to the conclusion that the art of paint-making has not kept pace with modern progress, but further study shows the fallacy of this conclusion.

The nature of paint is such as to necessitate conservative development and the tendency at times has been toward ultra-conservatism. Decisive results to be secured by using new materials can be determined only after years of careful test and observation. So many extraneous influences affect a paint's value in use that favorable laboratory determinations are not conclusive criteria of merit. Consequently paint-users

and paint-makers have been slow to discard materials the utility of which has been established. Notwithstanding these conditions, distinct progress has been made in the paint industry and in painting methods, particularly since the beginning of the present century, and the prospects are that this development will proceed very rapidly.

It is interesting to note that the essential operations of early paint manufacture continue to this day. The ancient paint-maker ground his pigment between stones which he operated by hand; today the pigment is ground between stones, but they are power-driven. The ancient workman mixed his batch in a crude bowl with a wooden spatula; modern mixing is done in huge vats, in which the mixing paddles are operated by power. The ancient workman had only a few pigments, which he generally mixed with water; modern methods involve the use of a varied list of products, whose sources of supply are as widely separated as Canada and the Argentine, India, China, Russia, and the United States. In the gathering of the raw materials used in the manufacture of paint all races and nationalities are employed, and operations ranging from the simplest and most elementary to the most scientific and complex have their part in the process.

A review of the development of paint should cover the entire range of products. Although

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A Section of the Paint Laboratories

The research and test work done in the experimental department of the Paint and Varnish Division of the Pittsburgh Plate Glass Company is the first and most important step in the process of manufacture. Here samples of raw material from all over the world are assembled for examination and analysis. Absolute certainty is the only accepted basis and this is insured by the one infallible, though painstaking and even tedious method—actual test.

white is the main base for general exterior paints, colors play an important part. During the last twenty years the development in colors has been rapid and while many that have been staple articles for centuries are still used, remarkable progress has been made, particularly in the development of permanent reds.

The years since 1914 mark an epoch in the development of the American paint industry. During that time this country has thrown off entirely its dependence on Europe for the raw materials necessary in the manufacture of artificial colors, and now is able to produce everything necessary to the manufacture of paint from basic materials found or fabricated in the United States. At the same time there has been striking improvement in metallic pigments, such as oxide of iron. Today, for example, there is produced a pure yellow oxide with the color of ochre, but more highly concentrated.

The white pigments used in paint manufacture may be divided into two classes—those which

are highly opaque when mixed in oils and those which have but little hiding power. To the former class belong white lead, both basic carbonate and sulphate, zinc oxide, leaded zinc, lithopone, and titanium white. In the other class would be included whiting, gypsum, barytes, silica, China clay, asbestine, and talc.

White lead is the oldest white pigment known and is mentioned in literature as early as 430 B.C. Records seem to indicate that this material was made by a process not widely different from the present-day Old Dutch Process, the method now most widely used. The basic sulphate of lead dates only from 1872. It is now generally accepted as equal to white lead for most purposes, and superior to it for painting steel structures. Blue lead, produced by a similar method, also has obtained recognition for the painting of structural iron and steel.

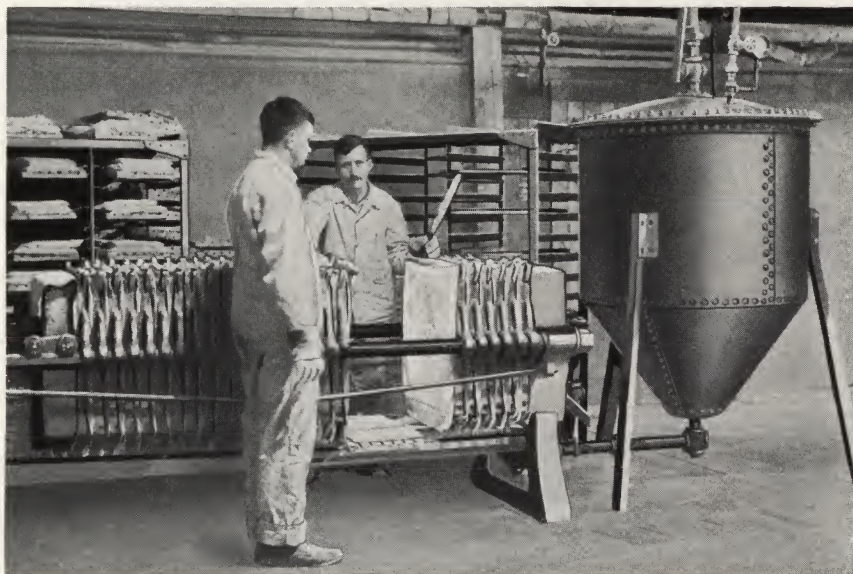
There is but little difference in the physical properties of leads produced by the various methods. The outstanding virtue of lead as a

THE MANUFACTURE OF PAINT



A Row of Dry-Color Tanks

The raw materials from which colors are made are dissolved in these tubs. The solutions, when brought together in larger tubs, precipitate the insoluble colors. The liquid containing the by-products is siphoned off, the color is washed with water, and then it is transferred to the color presses shown in the picture below.



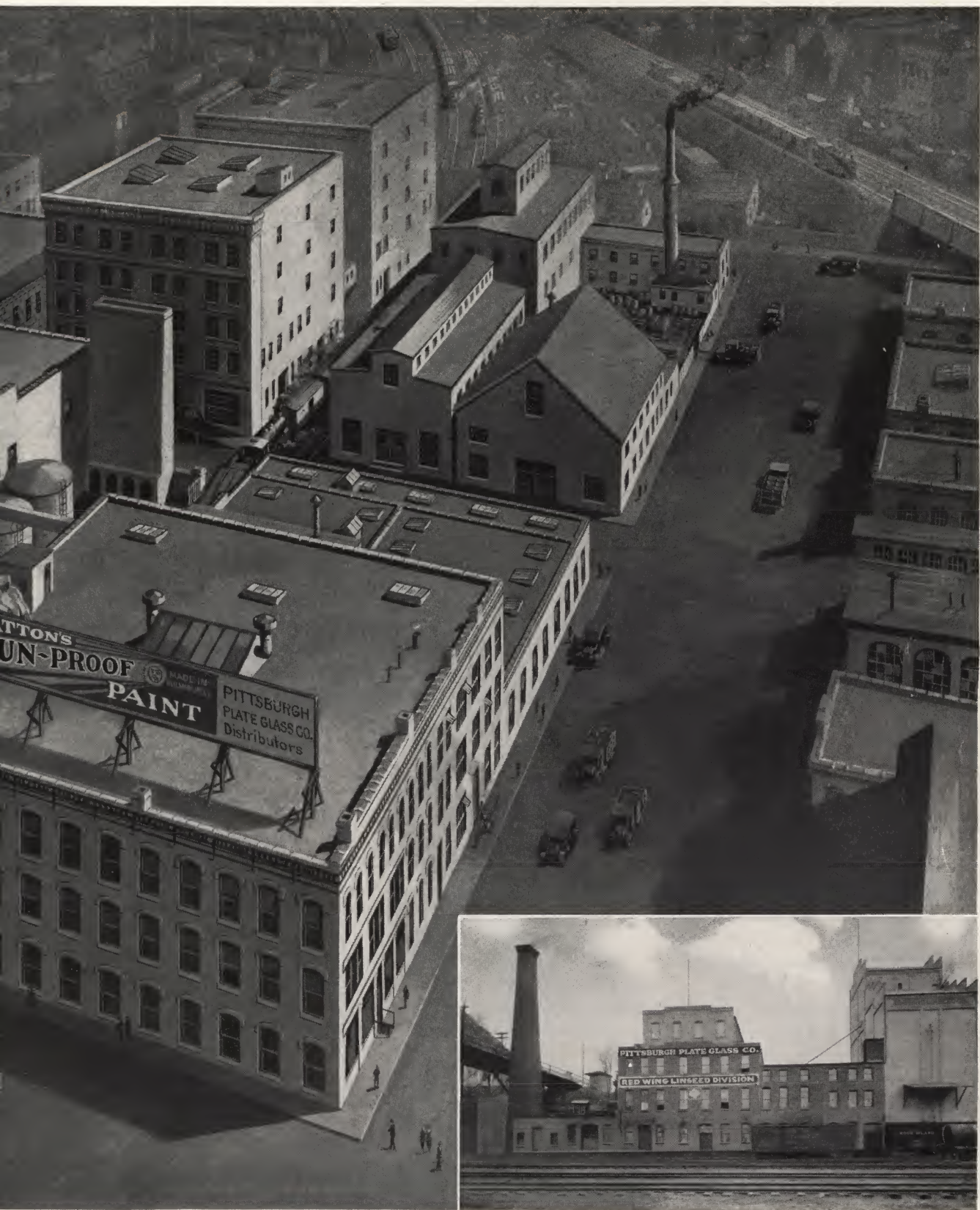
Dry-Color Press

Here the water is pressed from the solids and the material is moulded into cakes, which are dried and ground into powders commercially known as dry colors.



Paint and Varnish Plants at Newark, New Jersey

Paint and Varnish Plants



Waukeee, Wisconsin

Linseed Oil Plant at Red Wing, Minnesota

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A Row of Mixers

Here is illustrated the type of machine used in mixing the pigment with liquid to form a paste. This then is ground between two stones which reduce the pigment particles to extreme fineness. Various types of mills are used for this purpose.

paint material is that, while it has a drying effect on oil, it produces a film which never becomes brittle, but instead chalks and checks, though it does not peel. Consequently it is of value for use in combination with zinc oxide to offset the extreme hardness of that pigment. Although chalking is advantageous from a repainting standpoint, it causes tints made with white lead to appear faded soon after application and long before there is any great actual deterioration in the protective quality of the paint-film.

Zinc oxide has been made commercially for at least one hundred and twenty-five years. It is now generally used in prepared paints. Because it produces a smooth, uniform texture, it is admirably fitted for use in enamels.

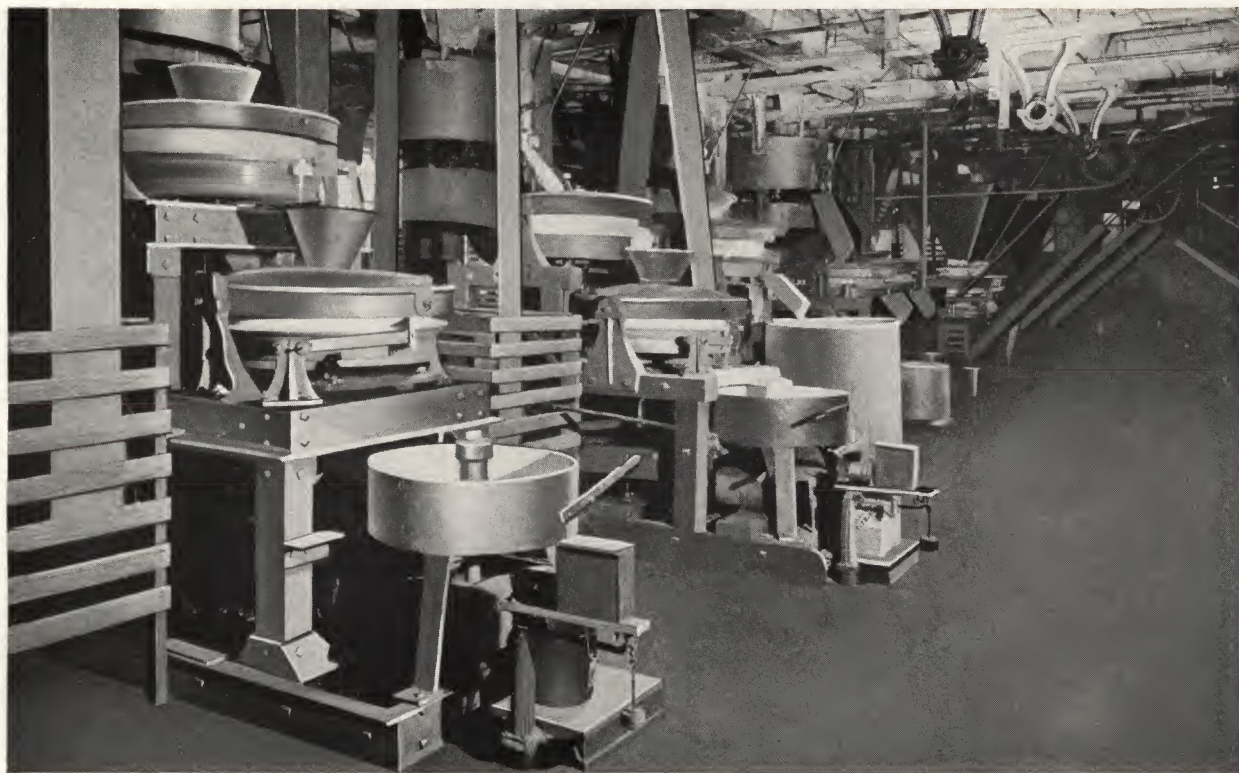
Lithopone is a pigment which has made remarkable strides as a paint ingredient. The discovery is credited to Orr, an Englishman, in the year 1874. This pigment is whiter than lead, and in texture it is more like white lead than zinc oxide, the smoothness of which it lacks. Its color is unaffected by sulphur or hydrogen

sulphide, owing to the fact that it is already a sulphide and sulphate combination. Lithopone is largely used for the manufacture of interior flat wall paints. It is now recognized as one of the major white pigments.

Titanium white is the newest of the white pigments and bids fair to become an important member of the major or opaque-white group.

The white pigments in the second class are generally described as inert. Inert pigments have no chemical action, and although white when dry, usually lose their opacity when mixed with oil, though retaining it when mixed with water in the form of cold-water paints. They are derived from many sources and produced by various methods. For example, barytes, or barite, is a mineral found in large quantities in Missouri, Tennessee, and North Carolina. Gypsum is a natural sulphate of lime. Whiting is produced by grinding English cliff stone. Silica occurs in the natural state as quartz crystals and has been found far superior to any other inert material for the protection of structural

THE MANUFACTURE OF PAINT



A Battery of Double Grinding Mills

When extreme fineness is essential, the pigment is ground in a double-grinding type of mill illustrated above. After passing through one set of grinding stones the pigment drops to another set, where it is ground again.

iron. Other inert pigments used in the paint industry are the silicates, asbestine and talc. Before the grinding which fits them for use in paint-making, these bulky, stone-like materials are somewhat similar in appearance.

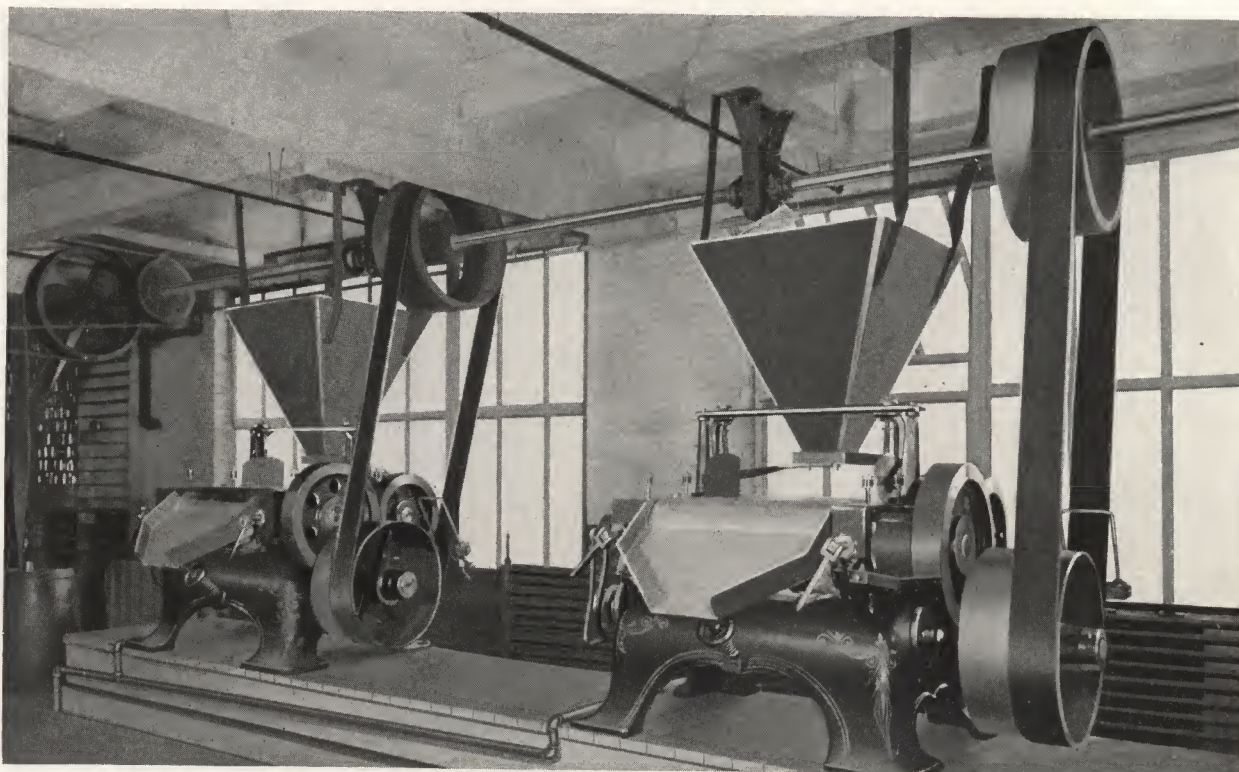
Inert materials have a well-defined use in paint manufacture. It is only their abuse that is open to criticism. Indeed, many colors are so strong that to use them without inert pigments would be an extravagance. A proper proportion of inert pigment adds to the durability of painting materials for exterior use. Some of these inert pigments are extraordinarily resistant to atmospheric influences, far superior to lead and zinc in this respect, and are deficient only in hiding power. Therefore, when properly used, they offer a distinct protective value, and, having no chemical activity, reinforce the chemically active, opaque pigments.

In addition to the white pigments, the paint manufacturer has to deal with another group, usually included under the designation, colored pigments. These may be divided roughly into

four classes: those containing lead, those containing iron, those containing carbon, and those containing organic colors. Among the pigments containing lead are chrome yellow, chrome orange, red lead, orange mineral, and chrome green. Pigments containing iron include ochres, umbers, siennas, Venetian reds, Indian red, crimson oxide, and black oxide. Chinese blue, as it contains some iron, may be included in this class, although it is entirely different in nature from the foregoing pigments. Pigments containing carbon include lampblack, charcoal black, bone black, and graphite.

The organic colors, used either alone or in combination with mineral pigment, are of diverse origin. Some, such as carmine, produced from the cochineal insect, are of animal derivation, while others, like Dutch pink (which, oddly enough, is a yellow, produced from quercitron bark), are of vegetable origin. Still other organic colors, usually grouped under the term "coal-tar products," owe their elaboration to the processes of modern chemistry. In this

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A Special Roller Grinding Mill

Here is shown the latest type of mill. In this mill the pigment is passed between heavy steel rollers. This modern roller mill has several times the capacity of the older type of stone mill.



The Stone-Dresser

The stone-dresser plays an important part in paint-making. In the stone-type mill, much depends upon the way in which the cutting edges of the stones are shaped. Long experience makes the stone-dresser an adept and in recent years the automatic hammer has lightened his task considerably.

latter class are included: alizarine, which, combined with iron oxide, produces the permanent Tuscan reds; eosine, used extensively in the past with orange mineral to make vermilion shades; and Para red, used alone or in conjunction with orange mineral.

There are several miscellaneous pigments, namely: Prussian blue, Chinese blue, emerald green, genuine cobalt blue, zinc chromate, and chrome oxide.

Prussian and Chinese blue, although containing iron as an important constituent, are generally classed as cyanide compounds, and are the only miscellaneous pigments of those just mentioned which are used to any extent in the manufacture of paints.

The development of oils has kept pace with the improvement in pigments. For many years practically the only oil used as a vehicle for paints was linseed oil, obtained by crushing the seed of flax. Flax was cultivated, until about 1850, chiefly for the fiber, the seed being a by-product. This condition has been completely reversed and the seed now is by far the chief object

THE MANUFACTURE OF PAINT



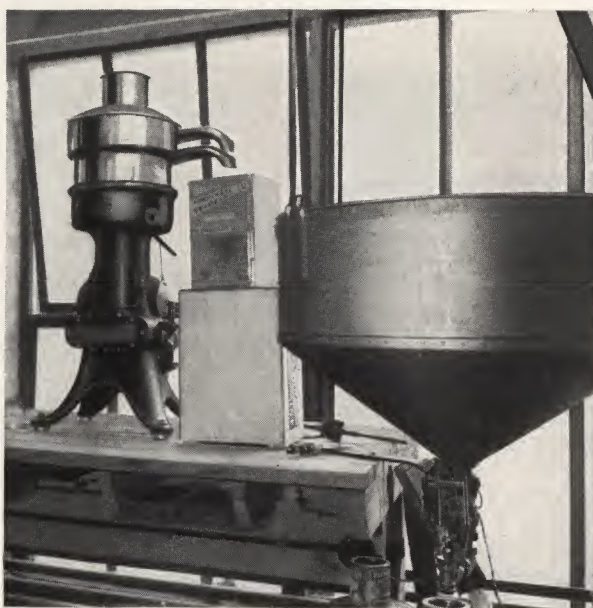
A Battery of Enamel Mills

Special care is necessary in the manufacture of enamels. The mills in which enamels are made are of a smaller type than the regular paint mill and are carefully watched over by expert supervisors who see that the proper degree of fineness in grinding is obtained.

in its cultivation. Flaxseed is grown principally in India, Russia, Argentine Republic, the United States, and Canada.

The first new oil of any importance to be introduced was China wood oil and for some time its use was confined to the manufacture of varnish. With the proper treatment it had the valuable property of adding hardness, toughness, and gloss to a finish. Its use made possible the production of cheaper varnishes, comparing favorably in durability with those formerly made from the hard gums, which are gradually becoming scarce and consequently more expensive. In the course of time China wood oil was introduced into flat interior and to some extent flat exterior paints, with the result that these paints are more durable, brush more easily, and are more resistant to moisture.

During recent years there have been developed a number of oriental oils, of which soya bean and Perilla oils have been used to a considerable extent. Having valuable special properties, both no doubt will continue to hold prominent place in the manufacture of paint products.



Enamel Clarifier

All enamels are run through a separator operating on exactly the same principle as an ordinary cream separator. The rapid rotary motion forces the coarser particles toward the outside, so that the enamel remaining is impalpably fine.

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Gravity Paint Fillers

By filling from an overhead hopper, the force of gravity is utilized. In the lower picture is shown the use of the automatic cut-off and the method of filling by weight and measure. As a given quantity of paint flows through the filling spigot, a valve closes automatically, cutting off the flow. The can rests on a scale which has been set at the standard weight for the kind of paint and the size of container. It is interesting and indeed fascinating to watch as the can rapidly fills, and then, as the proper quantity is metered, to hear the click of the valve as the apparatus registers exact weight and measure.



Filling by Weight and Measure

The third important group of materials used in the manufacture of paints and varnishes is known as the volatile thinners. The principal natural product in this classification is turpentine, obtained by the distillation of pine resin. Turpentine is the best known solvent for oils and gums. Its flash-point is 95 degrees Fahrenheit, which means that a flame passed over it at an ordinary temperature will not cause it to ignite. When spread out in a thin film it evaporates entirely, but when allowed to evaporate from a container, oxidation takes place and a residue remains.

Another source of thinner is petroleum. The petroleum derivative most used is commonly known as painters' naphtha. Benzole and solvent naphtha are distillates from coal tar. Benzole is much more volatile than solvent naphtha.

Many excellent turpentine substitutes are produced by properly fractioning the different petroleum products and incorporating other materials.

THE MANUFACTURE OF PAINT



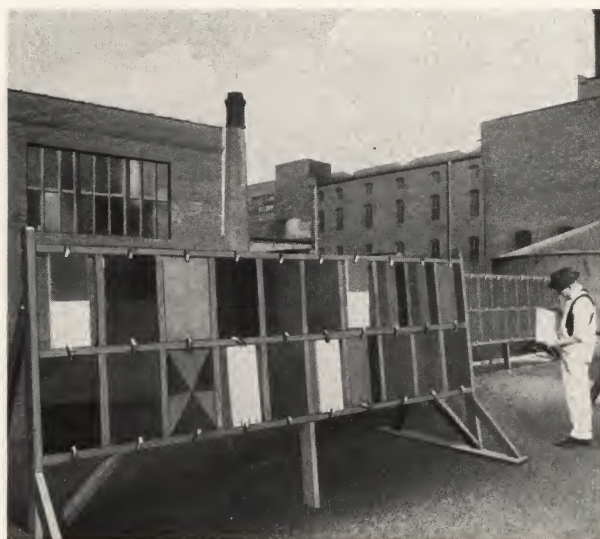
Sample and Test Room

The finished product is subjected to a final test in the sample room. A sample is tested for color, consistency, and covering capacity. For checking each step in this operation a standard sample is kept, and as the various batches come through the factory they are tested and results checked against the standard sample. Special samples also are worked out in this room. Many finishing materials now in daily use by leading manufacturers in all parts of the country were first worked out in this miniature paint factory.

These products, on evaporation, leave nothing behind them in the film. They are added to paint for the purpose of making it spread farther and obtaining a film of the proper thinness. Therefore, the preference is for the one which is most economical and at the same time answers the purpose.

Important improvements have been made in the manufacture of undercoaters and white enamels. In the former the use of lithopone has been an important factor. Through a manipulation of the vehicle, it has been possible to make an undercoater which can be flowed on, just as enamels are, thus eliminating the brush marks common to the ordinary untreated oil film. This greatly improves the ground coat and makes possible a high-grade job with fewer coats of the higher-priced enamel.

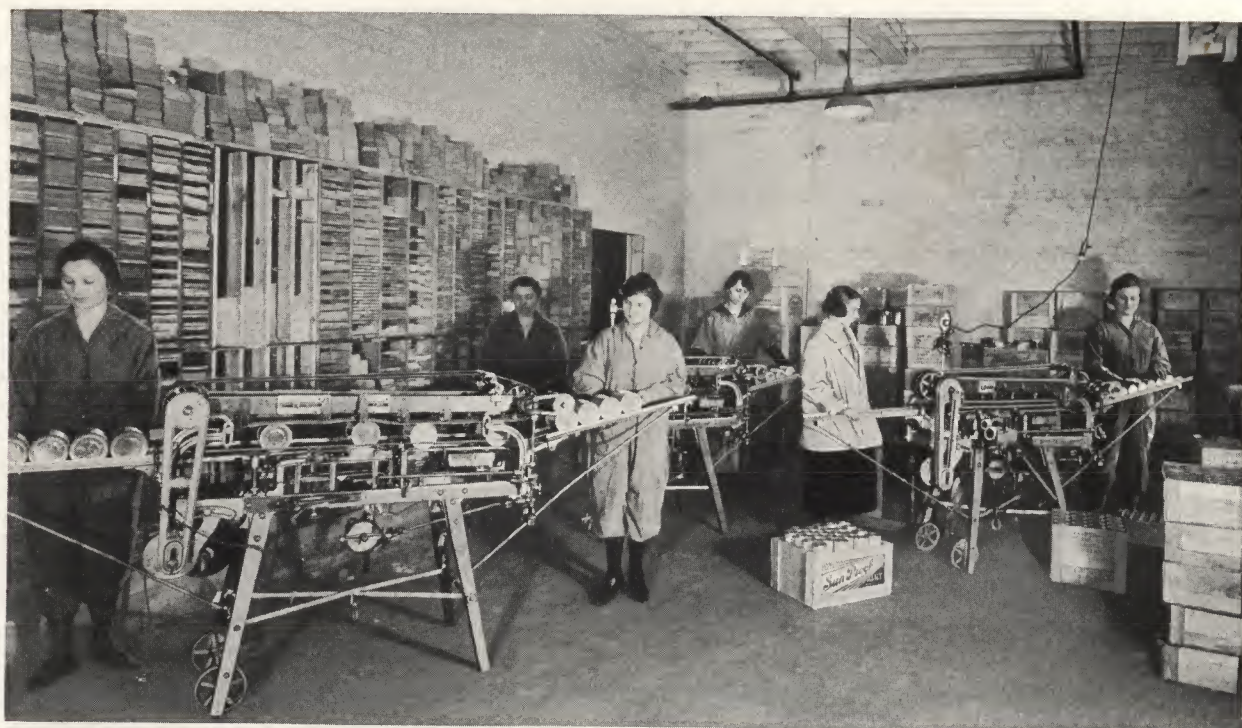
Until recent years the trade depended on enamels produced largely from damar varnish, made by dissolving damar gum in turpentine or some other volatile thinner. Enamels made



Test Panels

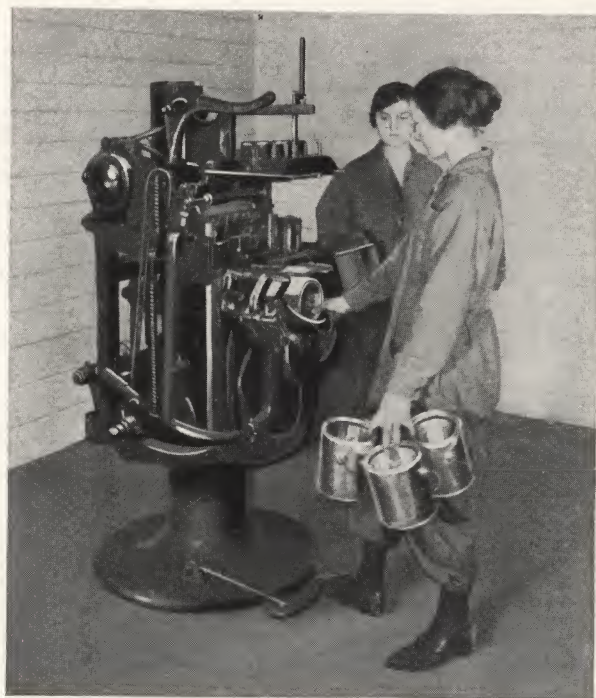
The roofs of our paint factories afford ideal facilities for the testing of paints and pigments under various conditions which are encountered in the application of paints. Numerous panels are continually on test and the results of the combination of various pigments and oils are carefully noted.

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A Battery of Labeling Machines

A very important operation is the labeling of cans. There are many different lines of paint—exterior and interior; for wood, iron, and concrete; gloss and flat; liquid, paste, and semi-paste; each line is made in many colors, each color is put up in various sizes, and each requires its separate label. The labels are affixed by automatic machines, as illustrated in these pictures, and a battery of these machines will label many thousands of cans daily.



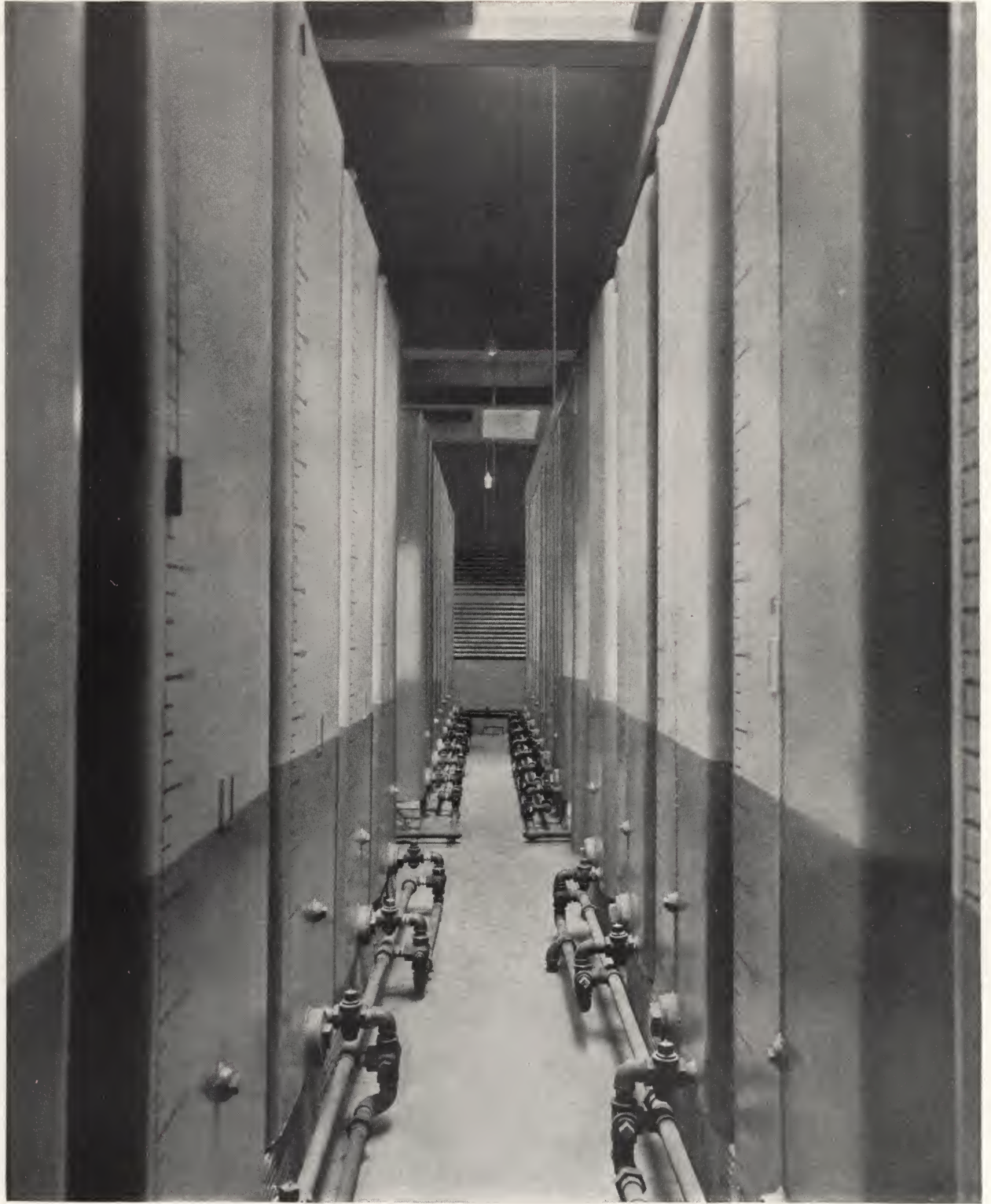
A Special Type of Machine Used in Labeling Gallon Cans

from damar, however, soon lose their elasticity and in course of time are sure to crack and check. These enamels possess only one valuable property, and that is their whiteness, which is maintained in a satisfactory manner. Against this single advantage must be set off their lack of durability, difficulty in brushing, and a tendency to soften when repainted, causing checking of coats applied over them later.

The development of oil-base enamels has overcome all these difficulties without the sacrifice of any important advantages, and marks a notable forward step in the industry.

Future progress doubtless will be along the line of improving the vehicle for exterior paints. The knowledge already gained about oils and how to treat them will be of great assistance in developing this class of paint materials. Past experimentation and exhaustive testing form a solid foundation on which to build for future progress, and it is entirely reasonable to predict that the developments of the next decade will greatly surpass those of the past quarter of a century, fruitful as that period has been.

THE MANUFACTURE OF VARNISH



Storage and Aging Tanks



THE MANUFACTURE OF VARNISH

THE word Varnish is derived from the name of Berenice, Queen of Cyrene, beautiful wife of Ptolemy Euergetes, King of Egypt about 250 B.C. She is said to have sacrificed her wonderful hair in the temple of Venus in fulfilment of a vow for her husband's safe return from a campaign in Asia. Her hair disappeared mysteriously from the altar, and was reported by the astronomer Conon to have appeared as a constellation in the Milky Way. Amber later was likened by the Greeks to Berenice's hair and called by her name. Hence the late-Latin word *vernix* and its later Italian form *vernice*, from which our word Varnish is derived.

Only a few decades ago varnish-making was a well-nigh occult art. The formulas and rule-of-thumb methods used by the various manufacturers were guarded jealously. Then the chemist entered the field. Exhaustive study of the needs of the varnish consumer, analysis of the raw materials, and constant experimenting soon enabled him to make a variety of varnishes exactly suited for the purposes required.

The materials used in the making of varnish are drawn from all sections of the globe.

Of first importance are the resins, or fossil gums, which give to varnish its brilliance and lustre. These now have come to be classed under the general term copal, a designation originally applied only to resins from East Africa. Copals result from the exudation of the sap of prehistoric trees which became covered with soil and later fossilized. These gums have remained

imbedded in the ground for many centuries and now are brought to the surface for use in the making of varnish.

In the early days gum-digging was carried on in a very haphazard fashion and because of the crude methods used, not much more than the surface gum ever was recovered. The gum was located by prodding into the ground with long, sharp steel rods, and the deposits were then dug up, scraped, cleaned, and graded for the market. Today the industry is better organized and the ancient digger with his prodding stick has been replaced by an individual who compares favorably with the American miner. The industry includes a well-ordered system for grading and marketing the gum, with extensive warehouses and brokerage connections in the chief markets of the world.

Deposits of fossil gums are found in Zanzibar, Mozambique, Sierra Leone, Angola, New Zealand, and the Pacific Indies. A vast supply comes from the Philippines, the Sunda Islands, and the Moluccas. Because this gum usually is put aboard ship at Manila it has come to be known as Manila gum.

The resins from Java, Sumatra, and Borneo have been classified as damar gums by European importers, and more recently many resins from India and the Malay Islands have been introduced under the name of damar.

Another source of resin supply is in the distillation of turpentine. The thick, viscous crude turpentine is put into huge stills and all the

PITTSBURGH PLATE GLASS COMPANY



Testing Raw Materials

As in the making of paint so is it in the making of varnish: constant testing of raw materials to insure a proper standard of quality is carried on in two modernly equipped chemical laboratories.

volatile matter is driven off and condensed. That which remains in the still is run into barrels while in a molten state, and allowed to harden. This residue is the rosin of commerce.

Gilsonite is used in the manufacture of black air-drying and baking japons, used extensively on ironwork. It is a derivative of a material found largely in Utah and closely allied in characteristics with asphaltum.

These are not all the gums used by the varnish-maker, but the foregoing notes will convey some idea of the variety of materials used in varnish-making and the wide sources of supply from which these materials are obtained.

The oils used in the manufacture of varnish are similar to those used in the making of paint and have been described already in the section devoted to paint. The thinners used also have been covered in the same article. There remain for our consideration, then, only the driers, which are incorporated with the oils to hasten the drying of the varnish film. The terms "japan," "japan drier," and "drier" are used interchangeably and it is rather difficult to make

a hard and fast distinction, but in general, the term "japan" is applied to a quick-drying liquid used alone, or in connection with color, while the terms "japan drier" and "drier" are applied to liquids which are added in small quantities to hasten the drying of varnish, linseed oil, paints, and enamels.

It is most interesting to make close comparison of ancient and modern methods in varnish-making. In a manuscript of the monk Theophilus, written in the Eleventh Century, we find this account of the "Varnish Gluten" of his day:

"Put Linseed Oil into a small new pot and add, very fine powdered, a Gum which is called Fornis, which has the appearance of the most lucid. Thus, but, when broken, it yields a brighter lustre. When you have placed over the fire, cook carefully, so that it may not boil up, until the third part is consumed, and guard against the flame, because it is very dangerous and is extinguished with difficulty if it is raised. Every painting, covered over with this Gluten, is made both beautiful and forever durable.

"Place together four stones which may be able

THE MANUFACTURE OF VARNISH



Melting Varnish Gums

The latest type of "stack room." Formerly draft for the fires was obtained naturally, by means of tall brick chimneys. Now exhaust fans produce forced draft, and the air necessary to combustion is regulated to a nicety.

to sustain the fire without flying to pieces, and place a common pot above them and put into it the above-mentioned Fornis, which in Romaic is called Glassa, and upon the mouth of the pot place a smaller pot which has a small hole in the bottom, and lute a paste about it so that no vapor may come out between these pots. Then place fire carefully underneath until this Gum liquefy; you will also have a thin rod with a handle with which you will stir this Gum, and with which you can feel when it is quite liquid.

"Have also a third pot nigh, placed upon the coals, in which is hot Linseed Oil, and when the Gum is quite liquid, so that the iron being extracted, a kind of thread is drawn out with it, pour the hot Oil into it and stir it with the iron, and this cook together that they boil not violently, and at times draw out the iron and daub over a little piece of wood or stone, to try its substance. And take care this, that in weight there are two parts of Oil and the third part of Gum. And when you have carefully cooked it to your wish, removing it from the fire and uncovering it, allow it to cool."

Now note how closely the present process follows the method of olden days, though exact science now dictates the proportions of ingredients to be used and the kettles and fires are in size many times greater:

The gums are selected according to formula and placed in large copper kettles, which are mounted on three- or four-wheel trucks. Over each kettle is fastened a cover, which is battened down fume-tight. This cover has three small openings, one in the center with a small stack, one on the side which fits the nozzle of a funnel used in adding the oils, and a third through which a stirring-rod can be operated.

The kettle is now wheeled into position over a gas fire fed from four two-inch gas openings. Forced draft is secured by means of electrically-driven fans.

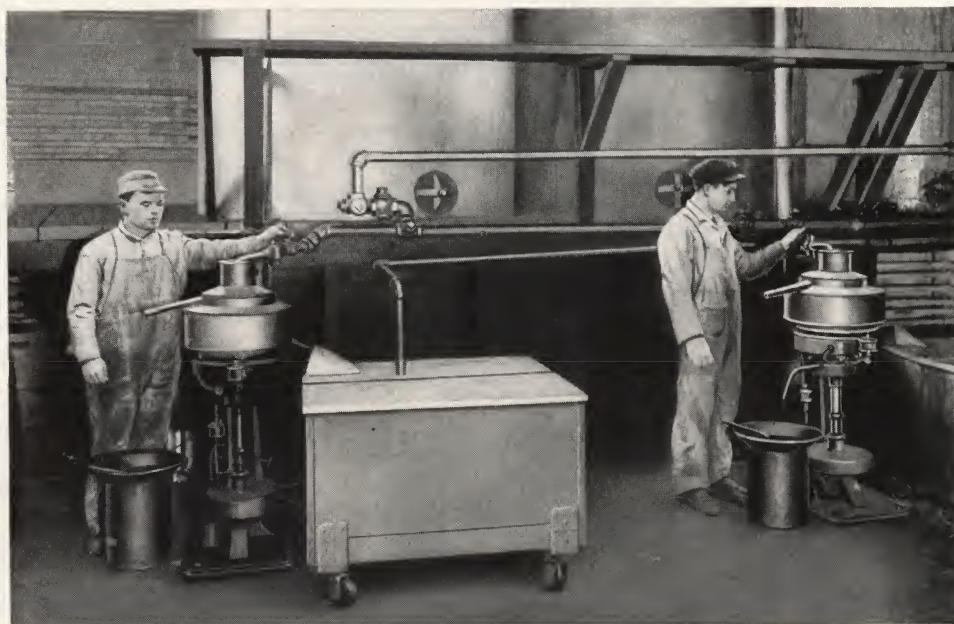
When the cooking process is started, a forced draft draws off the fumes and conducts them through a system of chilled condensing coils, in which they are divested by condensation of all volatile oils and other substances of value before the refuse gases finally are discharged.

PITTSBURGH PLATE GLASS COMPANY



Adding Thinners

Thinners are added to the varnish while it is extremely hot and constant agitation or stirring is necessary throughout the process.



Running Varnish Through the Clarifier

After the varnish is run through this machine, which in appearance and construction is much like a large cream separator, it is absolutely clean, without trace of sediment or impurity of any kind.

THE MANUFACTURE OF VARNISH



Testing the Finished Product

The varnish in its finished state is carefully tested against an established standard.

The gum first softens to a sticky mass and liquefies as the heat becomes more intense. Froth, formed by the continuous evolution of vapors, is beaten down with a large metal stirring-rod. Finally the gum becomes quite fluid. The judgment of the varnish-maker, who observes the drip from the stirring-rod, tells him when the solution is ready for the addition of the oil. The oil usually is pre-heated, so that when added it will not chill the gum sufficiently to cause it to become solid again, but instead the two liquids will go into smooth solution.

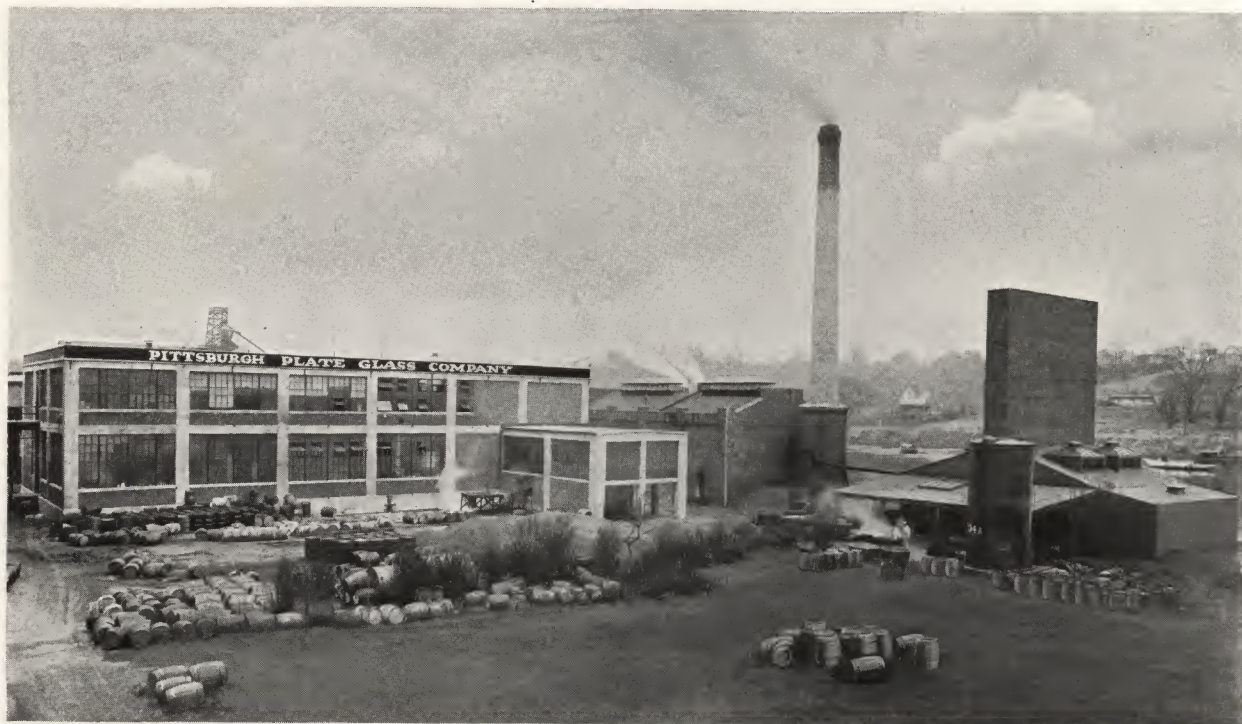
An extensive variety of varnishes can be made by changing the operations, the gums, the oils, and the driers used, and also by varying the proportionate quantities of the ingredients. When the gums, oils, and metallic drying salts have been properly combined and thoroughly amalgamated, the temperature of the liquid is from 500 to 700 degrees Fahrenheit. The kettles are rolled into a cooling place and when the heat has been reduced to a point low enough to permit the addition of thinners without flashing, the kettles are run into a thinning room, where

the thinners are added according to formula. The varnish must be agitated constantly while the thinners are being added.

After this the varnish, while still very hot, is pumped into large cooling tanks where it is allowed to stand overnight. Next day, still hot, it is put through a machine which filters the varnish, removing every particle of undissolved gum, dirt, and foreign substance of whatsoever kind. A modern steam-driven turbine separator is used. This operates much like a centrifugal cream-separator, and makes the varnish perfectly clear and transparent.

The varnish is then ready for the aging tanks, where it is properly settled and aged before it is drawn off into shipping containers. Proper aging is essential to final perfection in the highest grades, especially the finishing varnishes. In the lower grades of varnish the aging process is not so necessary, but for a product of supreme excellence, upon which a reputation may be built, there are requisite certain smooth-flowing and free-working qualities which nothing but age can impart.

PITTSBURGH PLATE GLASS COMPANY



Newark Varnish Plant

Paint and Varnish Division, Pittsburgh Plate Glass Company.



Milwaukee Varnish Plant

Paint and Varnish Division, Pittsburgh Plate Glass Company.



THE USE OF COLOR

FOR OUTSIDE WORK

IN THE selection of paints, thought should be given to the permanence of colors. All shades of Patton's Sun-Proof Paints are as unchangeable as the several colors can be made, but certain hues can not be made permanent. They will either darken gradually under the rays of the sun or fade more or less quickly.

The blues, pinks, and delicate tints intended solely for interior work and so marked on our color cards should never be used where they will be exposed to the sun. The greens of yellowish cast are more fugitive than the darker greens; the former will grow lighter while the latter will darken. The grays, browns, and yellows and the many beautiful shades and tints made from these colors are recommended where permanence of color is especially desirable.

FOR INSIDE WORK

The pleasantness of a room depends almost entirely on the way in which the walls are decorated. According to the best principles of interior decoration, walls must not be considered as decorative objects in themselves; they are considered as backgrounds for the furnishing of the interior, and are to be kept as soft in tone as possible because it is the inconspicuous, subdued walls that give rooms the appearance of greater spaciousness. It is this character of wall that provides the proper background for the furnishings, holding the entire architectural plan of the interior in a harmonious whole. Brilliancy in the interior color-scheme is by all means desirable, but use it in the furnishings—not on the walls. When it comes to selecting colors for wall decoration there is wide opportunity for the expression of individual preference, but the

colors selected should always be of a soft and mellow tone: light cream, ivory, and grays for south rooms, tans and greens for north rooms. The darker, more positive tones are best adapted for use in club rooms, theatres, restaurants, and public buildings, where high ceilings and large rooms make the use of these warmer colors permissible and even desirable.

FOR COMMERCIAL INTERIORS

In the decoration of a commercial interior, the first consideration is light-reflecting value, and there is no paint which better serves this purpose than a pure white. By actual test it has been proved that a white paint reflects from 82 to 89 per cent of the light entering the interior. Some of the very light tints are almost as high in reflecting value: ivory surfaces reflect 73 to 78 per cent of the light, cream from 62 to 80 per cent, yellow from 61 to 75 per cent. These shades, therefore, may be used with safety. Dark shades of green, blue, and red are to be avoided because some of them reflect as little as 11 per cent of the light.

For factories, white paints or the very lightest tints should be selected to obtain the greatest amount of light in the workroom. Surprising savings in factory lighting costs may be effected by choosing paint of the right color.

COLOR REPRODUCTIONS

The colors shown on our color cards and reproduced in the pages of this book match as nearly as possible the color of the paint when dry. Color chips, when kept from the light, change their color, the change being more marked in some colors than in others. When the color chips are exposed to light and applied paint is allowed to dry, the paint and sample chips will match.

PITTSBURGH PLATE GLASS COMPANY

PATTON'S SUN-PROOF LIQUID PAINT

For description, see page 28



JERSEY CREAM 330



LIGHT STONE 331



MILWAUKEE BRICK 55



PEARL GRAY 14X



STRAW 173



FRENCH GRAY 302



NAPLES 175



SLATE 310



DEEP BUFF 308



NEUTRAL DRAB 304



INDIAN TAN J



RUSSIAN GRAY 13X



LEATHER 125



BROWN 306



AMBER BROWN 320



COPPER BROWN 340

ALSO OUTSIDE WHITE, BLACK, INSIDE FLAT, AND GLOSS WHITE

PROOF PRODUCTS

PATTON'S SUN-PROOF LIQUID PAINT

For description, see page 28



SILVER GRAY

332



AZURE

178



SEA GREEN

334



PINK

177



LIGHT OLIVE

12X



LIGHT BUFF

322



APPLE GREEN

148



RICH BUFF

314



NILE GREEN

149



LIGHT TERRA COTTA

63



WILLOW GREEN

336



BRICK RED

337



COPPER VERDE

341



KENTUCKY BLIND GREEN

338



SASH GREEN

333



WAR TUSCAN

W4X

PITTSBURGH PLATE GLASS COMPANY



PATTON'S SUN-PROOF LIQUID PAINT

For color chips, see pages26, 27

For examples of work, see pages.....99 to 103

*For specifications for use, see Nos. 1, 2, 3,
18, 19, 20, 21, 24, 25, 38, 39, on pages 82, 84, 86*

“SAVE the Surface and You Save All” has deep significance for the property owner. A surface which is not adequately protected by paint becomes the prey of the elements. The fierce summer suns split and warp the boards, moisture enters, rot begins, and thereafter decay is rapid. The life of a building is indefinite if it is properly protected with an armor of paint.

Much depends on the choice of Paint. A few people may be able to judge the value of a paint by its composition, but to the average user the formula on the can means nothing. Paint should be bought on the basis of service. How many square feet will it cover? How many years will it last?

The answers to these two questions will give one the facts necessary to choose paint intelligently.

Low prices in paint should be avoided, for

note this: In a job of painting, 75 per cent of the cost goes into labor and 25 per cent into material. Therefore the paint which for the longest time defers the necessity of repainting is by far the cheapest.

Patton's Sun-Proof Paint resists the action of the sun and atmosphere to an extent which will adequately protect a surface against the elements.

It is made according to a formula which, long usage has proved, produces a tough, durable, wear-resisting paint-film spreading with uniform thickness over the surface to which it is applied.

One gallon of Sun-Proof Paint, when used according to directions, will cover 350 square feet of an average surface on new work, two coats; or 250 square feet, three coats.

Sizes—Barrels; five-gallon, gallon, half-gallon, quart, pint, and half-pint cans.

PROOF PRODUCTS



PATTON'S PORCHITE

For color chips, see page.....30
For examples of work, see page.....31
For specifications for use, see Nos. 4, 5,
on page.....82

THE constant tread of many feet will soon wear away the hardest surfaces. On the porch floors of the home, on the stair-tread, and on the decks of boats, the truth of this statement soon becomes apparent. It is of particular importance that these surfaces be protected. An unpainted surface will quickly deteriorate under the best of conditions; but under abrasion it disintegrates with alarming rapidity.

To give proper service under such severe conditions a Paint is required which will resist mechanical wear, as well as the action of sun, rain, sleet, and snow. An ordinary house paint is not properly compounded to meet these conditions.

Patton's Porchite is intended principally for exterior use where these extreme conditions are encountered. It follows naturally that a paint which will give satisfaction under such conditions can be used satisfactorily for various other exterior purposes also.

The covering capacity of Porchite depends on the condition of the surface to be painted, but as a basis for calculating the quantity required it is safe to estimate approximately 300 to 330 square feet, two coats.

Sizes—Barrels; five-gallon, gallon, half-gallon, and quart cans.



PATTON'S FLORHIDE ENAMEL

For color chips, see page.....30
For specifications for use, see Nos.
16, 17, 36, 37, on pages.....84, 86

THERE are few things the housewife dreads more than the drudgery incident to the unpainted softwood floor. No other surface absorbs dirt so easily. The solution is the enameled floor, easily kept bright and sanitary, lightening the household task, and adding greatly to the appearance of the home.

The modern concrete or cement floor in commercial institutions has brought in another problem. A floor of this sort, because of hard usage, soon begins to "dust" and in time to powder or crumble away. Paint protection is an absolute necessity, for reasons of economy as well as of sanitation.

Patton's Florhide Enamel is made especially for the protection and beautifying of interior floors, whether cement, concrete, or wood.

Florhide Enamel is highly recommended for use in office buildings, public and private schools, factories, automobile garages and show rooms, hospitals, department stores, and institutions of all kinds, private and public.

Two coats of Florhide Enamel produce a tough, elastic, impervious, high-gloss finish that resists wear and abrasion to the highest possible degree. It is an Enamel and dries quickly, hard enough to be walked on overnight, but at least twenty-four hours should be allowed before applying the finishing coat.

Florhide Enamel covers approximately 250 to 300 square feet per gallon, two coats.

Sizes—Barrels; five-gallon, gallon, half-gallon, quart, and pint cans.

PITTSBURGH PLATE GLASS COMPANY

PATTON'S PORCHITE

FOR USE ON SURFACES SUBJECTED
TO HARD WEAR

For description, see page 29



DIXIE GRAY



MALTESE BLUE



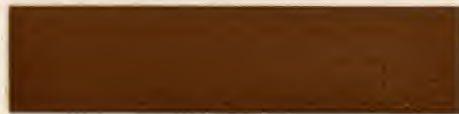
DARK SLATE



GRANITE GRAY



OLD GOLD



LEAF BROWN

PATTON'S FLORHIDE ENAMEL

FOR USE ON INTERIOR WOOD AND
CEMENT FLOORS



LIGHT DRAB



DIRT COLOR



LEAD COLOR



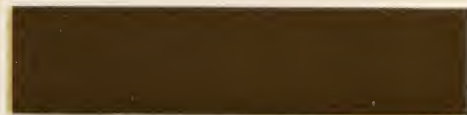
FAWN



LIGHT YELLOW



DARK YELLOW



BROWN



MAROON

PROOF PRODUCTS



Patton's Porchite protects surfaces subjected to the severe wear of scuffing feet and exposure to the elements.

PITTSBURGH PLATE GLASS COMPANY

PATTON'S OIL COLORS

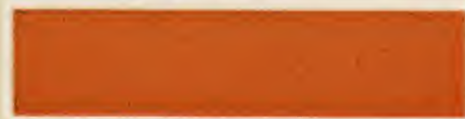
For description, see page 34



CHROME YELLOW—LIGHT



CHROME YELLOW—MEDIUM



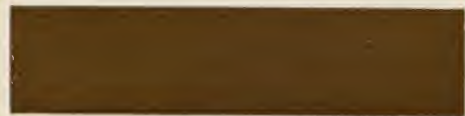
CHROME YELLOW—ORANGE



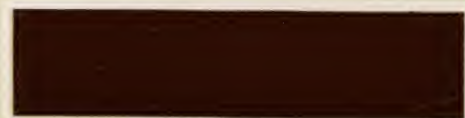
FRENCH CROWN GOLDEN OCHRE



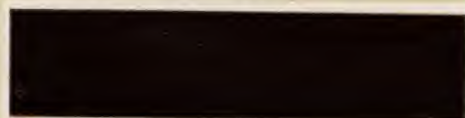
FRENCH WASHED OCHRE



RAW ITALIAN SIENNA



BURNT ITALIAN SIENNA



ENGLISH ROSE PINK



ENGLISH VERMILION—LIGHT



ENGLISH VERMILION—DEEP



AMERICAN VERMILION



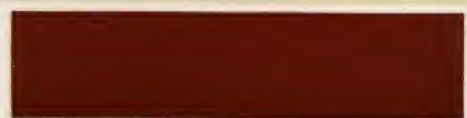
SUN-PROOF VERMILION



ORIENTAL PERMANENT RED—LIGHT



ORIENTAL PERMANENT RED—MEDIUM



VENETIAN RED



TUSCAN RED

PROOF PRODUCTS

PATTON'S OIL COLORS

For description, see page 34



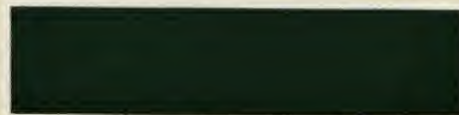
TURKEY RED



CHROME GREEN—LIGHT



INDIAN RED



CHROME GREEN—MEDIUM



ENGLISH ROSE LAKE



CHROME GREEN—DARK



ULTRAMARINE BLUE



VANDYKE BROWN



PRUSSIAN BLUE



COBALT BLUE



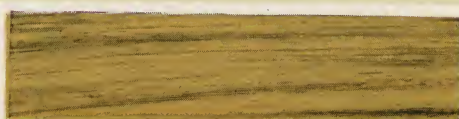
DROP BLACK



SIGN WRITERS' BLACK



RAW TURKEY UMBER



LIGHT OAK GRAINING COLOR



BURNT TURKEY UMBER



DARK OAK GRAINING COLOR

PITTSBURGH PLATE GLASS COMPANY



PATTON'S OIL COLORS

For color chips, see pages 32, 33

PATTON'S Oil Colors are intended principally for tinting and coloring. It is essential that such colors be uniform in purity, fineness, strength, and color. A low price per pound does not mean economy. The best colors are the cheapest because less material is required for tinting, and also because they are dependable in every respect.

The pigments are divided into two principal classifications: natural—Umbers, Siennas, Vandyke Browns, Yellow Ochre, and natural oxides; and manufactured—Blacks, Blues, Greens, Vermilions, Chrome Yellows, and Tuscan, Venetian, and Indian Reds.

The manufactured colors used in the making of Patton's Oil Colors are made in our own Dry Color Plant. By carefully grading and selecting the most suitable colors, we insure uniformity in the finished product.

Just enough Linseed Oil is used to produce a soft paste, which may be reduced with Oil, Leptyne or Turpentine, and Drier to the consistency of liquid paint and may also be used in the making of Stains.

Sizes—Buckets containing between twenty-five and sixty pounds and pots containing from twenty-five to thirty pounds, depending on the weight of the different oil colors packed in this style of package; also twenty-five, twelve and a half, five, and one-pound cans. (The Blues also in one-half and one-quarter pound cans.)



PATTON'S VELUMINA

For color chips, see page.....35

For examples of work, see pages 104 to 120

For specifications for use, see Nos.

32, 33, 34, 35, on pages.....85, 86

THE WALL is of supreme importance in interior decoration. It serves as the background or "frame" for the furnishings, tying them together into one harmonious whole. All the difference between pleasant and unpleasant rooms often depends merely upon the right or wrong wall treatment.

A wall should be inconspicuous, soft, and mellow in appearance, and these requirements call for the use of a Flat Wall Paint.

Patton's Velumina is an Oil Flat Wall Paint, made especially for interior decorative purposes. The liquid in Velumina is treated in a manner to cause it to dry flat, with that velvet softness essential to artistic decoration.

Velumina dries with a smooth, tough, elastic, "Pore-Proof" film, which will not readily collect dust or dirt. The dirt stays on the surface, where it is easily washed away, and the walls are thus kept clean and sanitary.

It is almost impossible to figure accurately the covering capacity of Flat Wall Paints, because the degree of absorption of different walls varies; but approximately, Velumina, when reduced according to directions, for new work covers from 450 to 800 square feet per gallon, first coat; without reduction for the finishing coat, Velumina covers about 400 to 500 square feet.

Sizes—Barrels; five-gallon, gallon, half-gallon, and quart cans. (White only also in pint and half-pint cans.)

PROOF PRODUCTS



PATTON'S INDUSTRIAL BUILDING PAINT

For color chips, see page.....38

For examples of work, see page.....36

For specifications for use, see Nos. 1, 2, 3, 18, 19, 20, 21, on pages... 82, 84*

A GOOD Paint is a good investment anywhere: in the home, on the farm or on commercial buildings.

The banker more readily lends money on buildings which are kept well painted. It is his assurance that his security will remain constant and not shrink below the loan value.

Patton's Industrial Building Paint is made especially for painting barns, warehouses, grain elevators, and metal or wooden roofs; in fact, it is intended for use generally where a good serviceable paint, at moderate cost, is required.

Industrial Building Paint is not hand-mixed, but is thoroughly ground by powerful paint mills, making it a smooth, durable Paint, with good covering capacity.

Because a Paint of this description is generally used on rough lumber and on surfaces that are very dry and weather-worn, it is difficult to estimate accurately the covering capacity. Under average conditions, Industrial Building Paint will cover approximately 200 to 250 square feet of surface, two coats.

Sizes—Barrels; five-gallon, gallon, and quart cans.

*Substitute Industrial Building Paint for Sun-Proof when necessary to use a lower-priced paint.



PATTON'S WAGON AND TRACTOR ENAMEL PAINT

For color chips, see page.....38

For examples of work, see page.....36

THE protection of farm implements is neglected to a degree that is shocking. Usually they are left out in the open, and the attack of the elements is relentless and deterioration rapid. How often a dollar's worth of paint would save the usefulness of a hundred-dollar implement!

Patton's Wagon and Tractor Enamel Paint is made like an automobile enamel and is intended for interior and exterior work. It has an excellent gloss, and gives perfect satisfaction on wagons, sleighs, and farm implements and for general use on articles of utility in and about the farm home.

Wagon and Tractor Enamel Paint is not, strictly speaking, a paint, because it is made with a good grade of Exterior Varnish, which brings it into the class of Enamels. The pigments are selected for fineness of particles and permanence of color. Wagon and Tractor Enamel Paint works easily, flows splendidly, and dries with a high-gloss finish which sheds moisture and prevents decay of wood and corrosion of metal parts.

Sizes—Gallon, quart, pint, and half-pint cans.

PITTSBURGH PLATE GLASS COMPANY

PATTON'S INDUSTRIAL
BUILDING PAINT

PATTON'S WAGON AND
TRACTOR ENAMEL PAINT

For description, see page 37



RED



WHITE



GRAY



YELLOW



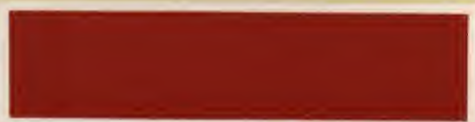
GREEN



BROWN



YELLOW



VERMILION RED



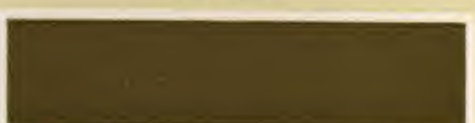
GREEN



GRAY



MAROON



KHAKI



BLUE



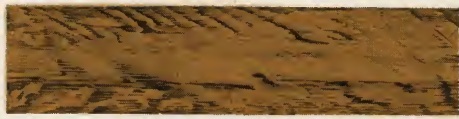
WAGON RED

ALSO BLACK

PROOF PRODUCTS

PATTON'S TOR-ON SHINGLE STAIN

For description, see page 40



RUSSET

362



MAROON

360



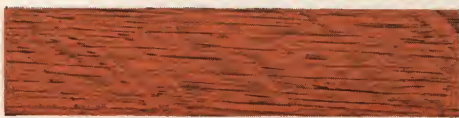
IVY GREEN

342



ROOF GREEN

353



INDIAN RED

343



WALNUT

363



MOSS GREEN

354



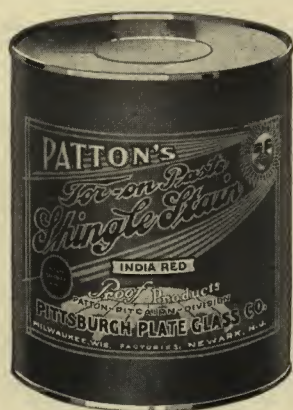
SLATE

366



Tor-on Shingle Stain will make this type of building last many years longer by warding off sun and rain, thus preventing warping and splitting of the shingles.

PITTSBURGH PLATE GLASS COMPANY



PATTON'S TOR-ON SHINGLE STAIN

For color chips, see page39
 For examples of work, see pages 99, 101,
 102, 103
 For specifications for use, see Nos. 6, 7,
 on page83

NO WONDER roofs decay! They are subjected to the direct rays of the sun, the rain beats down upon them, and nothing shields them from frost and snow. Roofs, beyond all else, need a protective coating.

The protecting and preserving qualities of Tor-on Ready-Mixed Shingle Stain result from its penetration into the wood. The pigments are high-grade colors ground in oil, and while they are as permanent as it is possible to make them, it should be remembered that the roof has 100 per cent exposure to the weather. As only a small quantity of color is used, the Stain cannot be expected absolutely to hold its color. This is especially true of the Greens. For best results, shingles should be dipped before being laid, and followed with a brush coat when the roof is completed.

Dipping—Two and one-half gallons of Tor-on Shingle Stain will dip 1,000 shingles two-thirds of their length.

Dipping and brushing—Three gallons of Tor-on Shingle Stain will dip 1,000 shingles two-thirds of their length, and brush one coat.

Brushing—One gallon of Tor-on Shingle Stain brushed on will cover from 60 to 70 square feet of surface, two coats.

Sizes—Barrels; five-gallon and gallon cans.

NOTE: Tor-on Shingle Oil also is furnished in metal drums, wooden barrels, and five-gallon cans to customers desiring to mix their own Stain.



PATTON'S AUTO GLOSS FINISH

For color chips, see page42
 For examples of work, see page41

IN EVERY home there can be used to advantage a high-grade Enamel Paint for renewing and keeping new the surface of many articles. By neglect they will soon become unsightly, making replacement necessary.

At the first sign of wear on an automobile a protective coat of Varnish should be applied. Rust spots should be coated with the corresponding color at once. Porch furniture may be kept store-new; kitchen furniture, neat and sanitary; the store front, bright and attractive.

Patton's Auto Gloss is a high-grade, durable Color Varnish, suitable for exterior and interior work, especially adapted for automobiles, carriages, wagons, farm implements, porch, lawn and kitchen furniture, pumps, baby carriages, metal articles of all sorts, toys, store fronts, and the like.

Auto Gloss is easily applied, and has good working and flowing qualities; it dries in about eighteen hours with a perfect smooth finish and a high lustre.

The consistency of Auto Gloss is correct for all general purposes and its uniformity can be depended on always.

In the application of an enamel like Auto Gloss it is important that a good soft-haired brush be used. (See Brush Section of this volume, pages 125 to 152.)

Sizes—Gallon, quart, pint, half-pint, and quarter-pint cans.

PROOF PRODUCTS



Patton's Auto Gloss is a general-utility enamel for use on all articles where a high-gloss color enamel surface is desirable.

PITTSBURGH PLATE GLASS COMPANY

PATTON'S AUTO GLOSS FINISH

For description, see page 40



CHASSIS YELLOW



LAWN GREEN



NAVY GRAY



VICTORIA GREEN



WHITE ENAMEL



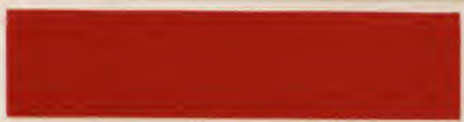
BREWSTER GREEN



IVORY



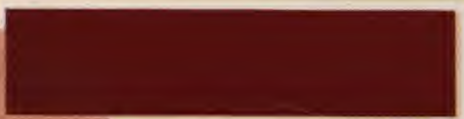
CANYON BLUE



CHASSIS RED



AUTO BLUE



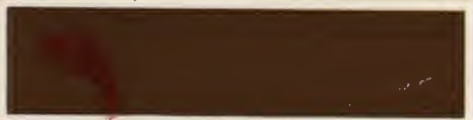
NAVAJO RED



BLACK



MAROON



BROWN

ALSO CLEAR

PROOF PRODUCTS

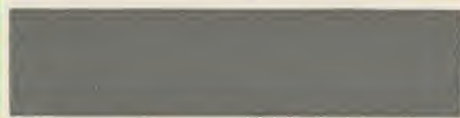
PATTON'S CEMENTHIDE

FOR ALL CEMENT PURPOSES

For description, see page 44



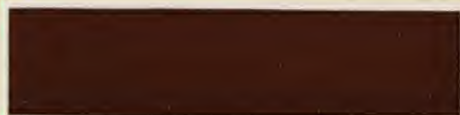
LIGHT CEMENT



FRENCH GRAY



BUFF



RED STONE



WHITE



LIMESTONE



Patton's Cementhide will add greatly to the attractiveness of cement or stucco dwellings.



PATTON'S CEMENTHIDE

For color chips, see page 43
For examples of work, see pages 43, 100
For specifications for use, see Nos. 14, 15, on page . . . 83

THE large increase in cement and concrete construction has made necessary a special paint for such structures. The dull gray cement or stucco surface soon becomes unsightly and a material which will decorate such a surface successfully is much in demand.

Patton's Cementhide is a flat-drying Liquid Paint for painting cement, concrete, stucco, brick, stone, or plaster, both interior and exterior. It has the properties of a Filler and Waterproofing agent, and produces pleasing decorative results.

Cementhide is as easily applied as an ordinary paint and because of its permanency is much more economical for factory interiors, laboratories, engine rooms, basements, or garages than the so-called cold-water paints, calcimines, or whitewash. Cementhide dries hard and does not soften under water like ordinary paint. It is also affected to a much less degree by steam and alkaline vapors.

Cementhide Priming Liquid is a Sealer and a Primer, which must always be used with Cementhide in accordance with directions, and under certain conditions should be used with Sun-Proof Paint and Florhide Enamel. (See Specifications Nos. 16-19, 38, 39, on pages 84, 86.)

Owing to the great difference in the character of surfaces on which Cementhide is applied, it is difficult to give definite figures on covering capacity. Over a rough, absorbent surface, a spread of from 150 to 200 square feet, two coats, may be expected, and up to 300 square feet on a smooth, hard surface.

Sizes—Barrels; five-gallon, gallon, and quart cans.

PROOF PRODUCTS

PATTON'S IRONHIDE

PROTECTIVE PAINT FOR STEEL

For description, see page 46



BROWN



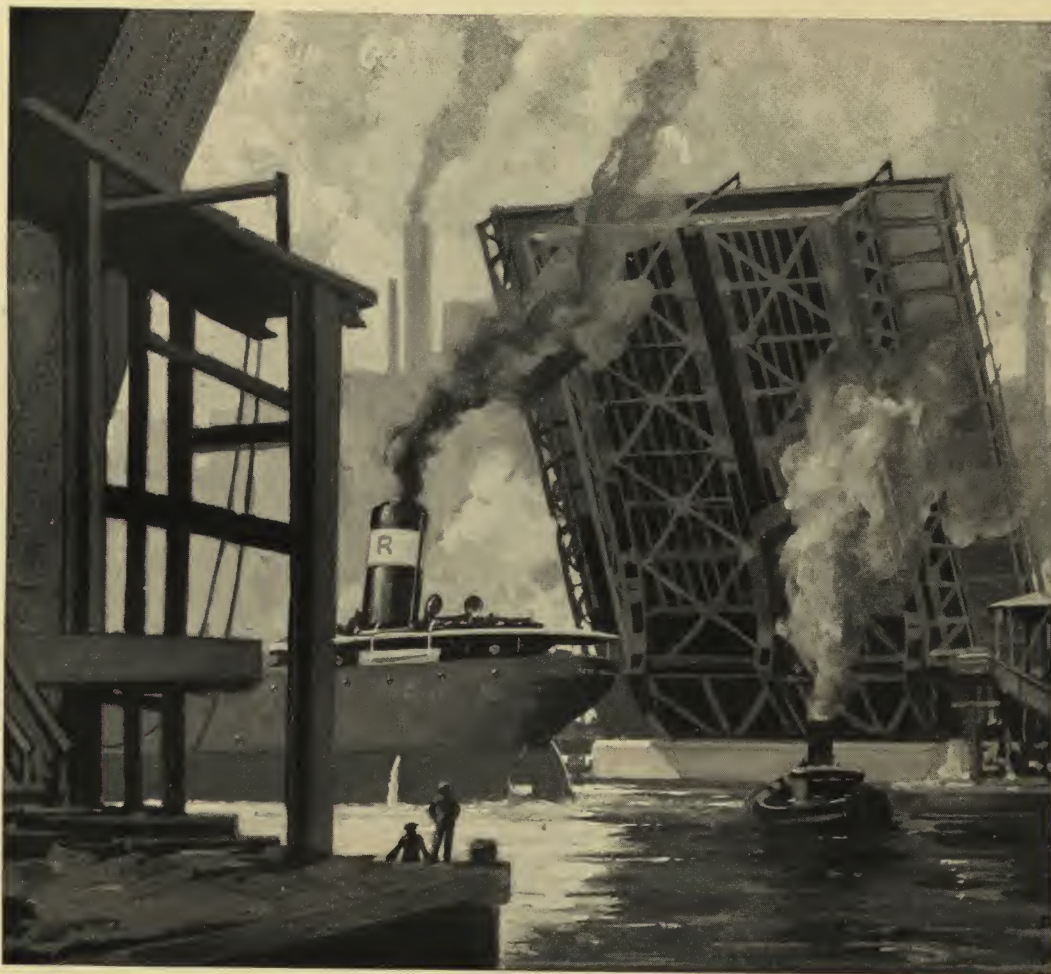
INHIBITIVE RED



GREEN



BLACK



Patton's Ironhide will protect all metal surfaces against rust, the great red plague.



PATTON'S IRONHIDE

For color chips, see page.....45
For example of work, see page.....45, 121
For specifications for use, see Nos. 8, 9, 10, 11, 12,
13, on page.....83

THE preservation of metal surfaces is an economic necessity. No ordinary paint will perform this service satisfactorily. Patton's Ironhide is a liquid paint, ready for use, for the painting and preservation of iron and steel work, inside and outside, suitable for such use as on structural steel bridges, gas holders, smokestacks, railway cranes, oil tanks, iron or steel wire or light poles, coal loaders, steel cars, tank cars, air drafts, metal silos, fire hydrants, cranes, and ventilating fans.

Patton's Ironhide works easily, and while it dries in eighteen hours it is always advisable to allow at least three days between coats. It is of heavy painting consistency and requires a fair amount of brushing.

Ironhide is extremely elastic and tough, and produces a film very impervious to gases and moisture. Three-coat work will give service from five to eight years, depending upon the climate of the locality where the painting is to be done, the care taken in preparing the surface for receiving paint, and the method of application.

Inhibitive Red will cover 600 square feet per gallon, one coat; Finishing Black, 600 to 800 square feet per gallon, one coat; Brown, 600 square feet per gallon, one coat; and Green, 600 to 800 square feet per gallon, one coat.

Sizes—Barrels; five-gallon and gallon cans.



PLASCO READY-MIXED PAINT

For color chips, see pages48, 49

For specifications for use, see Nos. 1,*

2, 3, 18, 19, 20, 21, 24, 25, 38, 39,

on pages82, 84, 86

PLASCO Ready-Mixed Paint is intended for either exterior or interior work. It is made to meet the demand for a paint that can be sold at a price lower than must be asked for the highest quality, and is as good a paint as can be made for the price.

It works easily, covers well, has good body, dries with a good oil gloss, and will give exceptional service for the money invested.

When used according to directions, one gallon will cover between 250 and 300 square feet per gallon, two coats.

Sizes—Barrels; five-gallon, gallon, quart, and half-pint cans.

*Substitute Plasco Ready-Mixed Paint for Sun-Proof when necessary to use a lower-priced paint.

PITTSBURGH PLATE GLASS COMPANY

PLASCO READY-MIXED PAINT

For description, see page 47



LIGHT CREAM PL 1



CREAM PL 2



STRAW PL 3



MANILA PL 4



BUFF PL 5



TAN PL 6



LEATHER BROWN PL 7



RICH BROWN PL 8



GRAY STONE PL 9



LIGHT STONE PL 10



LIGHT GRAY PL 11



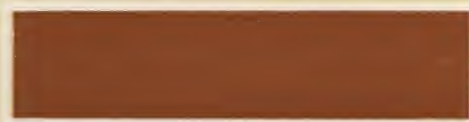
MEDIUM GRAY PL 12



LEAD COLOR PL 13



PINK PL 14



TERRA COTTA PL 15



BRICK RED PL 16

ALSO OUTSIDE WHITE, INSIDE FLAT WHITE, AND BLACK

PROOF PRODUCTS

PLASCO READY-MIXED PAINT

For description, see page 47



NILE GREEN

PL 17



LEMON

PL 21



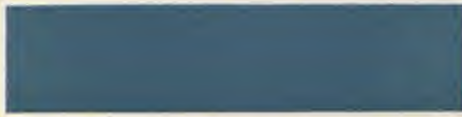
LIGHT BLUE

PL 18



BLIND GREEN

PL 22



DEEP BLUE

PL 19



VERMILION

PL 23



WILLOW GREEN

PL 20



BRONZE GREEN

PL 24

ALSO OUTSIDE WHITE, INSIDE FLAT WHITE, AND BLACK



Paint will protect investments in homes and furnishings.



PITCAIRN WATERSPAR TRANSPARENT

For example of work, see page 51

A VARNISH made according to a special formula, possessing characteristics distinct and individual. This Varnish will never turn white in water, whether hot or cold, fresh or salt. Waterspar Transparent possesses sufficient elasticity to withstand severe weather exposure. It is a Long Oil Varnish, which dries dust-free in two hours and hardens ready for use in from eighteen to twenty-four hours.

The toughness and elasticity of Waterspar Transparent make it a desirable Varnish to use for exterior purposes—for window casings, doors, boats, and canoes. The fast- and hard-drying qualities make it an excellent Varnish to use on inside finishing, furniture, and floors. On account of its toughness, Waterspar Transparent will successfully withstand washing and scrubbing, whether hot or cold water is used. It has brilliant lustre, good body, and, possessing hard-drying qualities, may be rubbed with pumice stone and water to a dull finish without coming back to the gloss.

Because of its toughness and hardness and because it will never turn white in water, Waterspar Transparent is not affected by household accidents, such as the spilling of toilet preparations, hot food, hot or cold water, rain or snow coming in from an open door or window, leaking radiators, escaping steam, or sweating walls.

Sizes—Gallon, half-gallon, quart, pint, and half-pint cans.

PROOF PRODUCTS



Pitcairn Waterspar Transparent is a Varnish for universal use, and is indispensable for the protection of surfaces subjected to moisture.

PITTSBURGH PLATE GLASS COMPANY



PITCAIRN WATERSPAR COLORED VARNISH AND ENAMEL

For color chips, see page.....54
For examples of work, see page.....53

THE Waterspar line consists of a transparent waterproof Varnish for use on surfaces where the finish is dull and needs brightening, an Undercoater and Colored Varnish when complete renewal is necessary, and White and Colored Enamels for use when a solid color is desired.

This Varnish is made so as to enable anyone to secure good results by the exercise of ordinary care and judgment. It is unexcelled in free, easy, smooth-working qualities, and flows out perfectly, leaving a brilliant and lasting finish. Pitcairn Waterspar Colored Varnish and Enamel may be used in numerous places in and about the home. Because of its great elasticity and toughness it is especially adapted to the finishing and refinishing of floors, fine furniture, and interiors. Floors may be finished one day and used the next. A Waterspar finish is waterproof, and because of its great smoothness is easily kept clean. Wiping with an ordinary damp cloth is all that is necessary.

Surfaces finished with Waterspar Colored Varnish may be rubbed to a dull finish or polished. Old surfaces can be renewed without removing the old finish. The use of this Varnish brings out the life and beauty of the wood. It covers mars and scratches and keeps furniture, floors, and woodwork from appearing old or worn. Surfaces that are badly stained, dark, and unsightly, may be grained to imitate popular and expensive woods after receiving a coat of Waterspar Ground Color. Using Everybody's Graining Set (page 175, Sundries Section) in connection with Waterspar, the staining, graining, and varnishing are all done in a single, simplified operation.

Sizes—Gallon, half-gallon, quart, pint, half-pint, and quarter-pint cans.

PROOF PRODUCTS



Pitcairn Waterspar Colored Varnish and Enamel will renew and beautify anything in and about the home.

PITTSBURGH PLATE GLASS COMPANY

PITCAIRN WATERSPAR COLORED VARNISH AND ENAMEL

FOR NEW OR OLD WORK

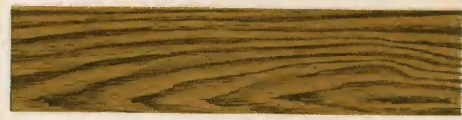
For description, see page 52



TRANSPARENT



GROUND COAT



LIGHT OAK



IVORY ENAMEL



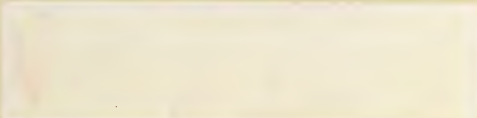
DARK OAK



PEARL GRAY ENAMEL



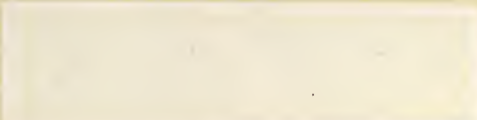
EXTRA DARK OAK OR WALNUT



FLAT WHITE



CHERRY



WHITE ENAMEL



MAHOGANY



PALE BLUE ENAMEL



DARK MAHOGANY



FERN GREEN ENAMEL



VERNAL GREEN



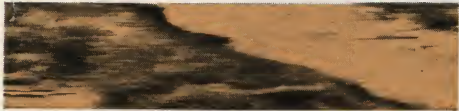
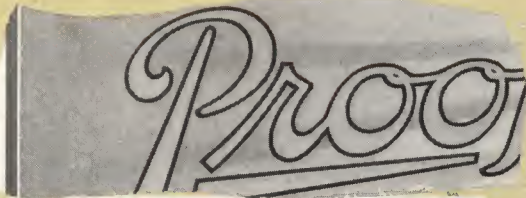
RICH CHERRY ENAMEL

ALSO ALUMINUM, GOLD, DULL BLACK ENAMEL, AND GLOSS BLACK ENAMEL

PROOF PRODUCTS

PITCAIRN WOOD STAIN

For description, see page 56



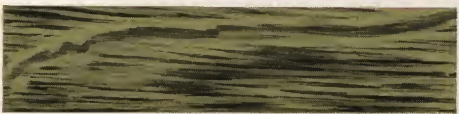
GOLDEN OAK STAIN NO. 6 PINE



FLEMISH STAIN NO. 1 OAK



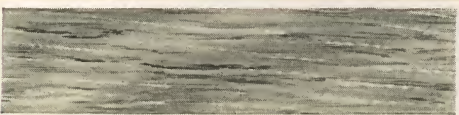
WEATHERED STAIN NO. 2 OAK



GREENISH WEATHERED STAIN NO. 4 OAK



GOLDEN OAK STAIN NO. 6 OAK



SILVER GRAY ACID STAIN OAK



FUMED OAK STAIN NO. 11 PINE



EARLY ENGLISH STAIN NO. 12 PINE



CIRCASSIAN WALNUT STAIN NO. 13 BIRCH



DARK MAHOGANY STAIN NO. 10 PINE



FUMED OAK STAIN NO. 11 OAK



EARLY ENGLISH STAIN NO. 12 OAK



CIRCASSIAN WALNUT STAIN NO. 13 GUM



DARK MAHOGANY STAIN NO. 10 GUM



EXTRA DARK MAHOGANY STAIN NO. 15 BIRCH

PITTSBURGH PLATE GLASS COMPANY



PITCAIRN WOOD STAIN

For color chips, see page55
For examples of work, see pages104 to 120
For specifications for use, see Nos. 50 to 79,
on pages88 to 94

THE cost of the Stain used on the average building is exceedingly small when compared with the cost of labor of application, together with the cost of the Finishing Varnish and its application, yet the Stain has a most important bearing upon the finished job. It is the Stain that brings out the high lights and beauty of the wood and in view of the fact that one gallon of Pitcairn Wood Stain covers on the average from 800 to 1,000 square feet of surface, it is apparent that a difference of 50 cents a gallon in Stain will not amount to much on the average job. It is, therefore, not the bulk cost or cost per gallon that should be the deciding factor, but the results obtained and extent of surface covered. Pitcairn Wood Stains may cost more than others, but they are worth more.

There are many advantages to the painter in using Pitcairn Stains, which have extraordinary penetrating qualities, go into the wood to color it, and do not produce a surface finish only, as do the pigment stains. A pigment stain is, in reality, a thin paint, which obscures and clouds the grain of the wood.

Pitcairn Stains do not raise the grain of wood or affect thin veneers. This is proof that

they do not contain alcohol, water, acid, or alkali, as it is characteristic of such stains to raise the grain of wood and the moisture in water stains frequently blisters thin veneers.

Pitcairn Wood Stains may be reduced with turpentine or benzine the same as any product with an oil base. These Stains set slowly, which permits them to be used on large surfaces, greatly reducing the danger of laps or cloudiness over soft spots in the wood. Spirit stains, which usually have shellac as a binder, set very rapidly, and are difficult to handle on account of the tendency to lap and show clouded effects on soft spots.

The painter using Pitcairn Wood Stains has a still further advantage in that he may use them for tinting his Filler, with which they mix perfectly; in fact, Pitcairn Stains may even be mixed in Varnish for producing lake or glaze effects. Pitcairn Stains are neutral, and have no detrimental effect on the wood to which they are applied, or on the finishing coats that may be laid over them. The colors may be intermixed, thus producing a great variety of colors, tints, and shades.

Sizes—Gallon, half-gallon, quart, pint, and half-pint cans.

PROOF PRODUCTS



PROOF" is the general trade name applied to Paints, Varnishes, Enamels, and other allied products of the Pittsburgh Plate Glass Company. This trade name is a distinction of quality, and applies generally to these products, in addition to the official trade-marks of the individual lines.

Glass, Paints, Enamels, and Varnishes are indispensable alike to cottage, factory, and skyscraper; they protect and beautify our possessions.

These and innumerable other products—insecticides, disinfectants, and chemicals—comprising the entire line of Proof Products, are available always in dependable supply everywhere, at the command of architects, dealers, contractors, painters, building owners, food growers, and manufacturers.

From raw material to finished product, the manufacture and distribution of Proof Products are under one ownership, one organization, operating through specialized manufacturing divisions, effecting incalculable economies—both in manufacture and distribution—assuring dependability of supply and consistent maintenance of Highest Quality Standards.

PITTSBURGH PLATE GLASS COMPANY

GLASS

MANUFACTURERS

PAINT

PAINT AND VARNISH FACTORIES: MILWAUKEE, WIS.; NEWARK, N. J.; PORTLAND, ORE.

PITTSBURGH PLATE GLASS COMPANY

One of the most important advantages our organization offers the dealer-customer is Service.

Our distributing facilities save the dealer both money and annoyance. He can get his goods in the shortest possible time, and quickly replenish temporary shortages of any color or material. He secures low freight rates with minimum danger of damage to the shipment in transit.

Freight and cartage paid on minimum shipments mean a sacrifice of profit. On the other hand, the purchase of more material than is

really needed, while possibly reducing the freight, will almost certainly result in an overstock. Only by carrying a full line, and purchasing all goods required from one convenient source, can the dealer secure these profit-making advantages.

On page 58 we show a photograph of a well-displayed stock of Paints.

Correspondence is invited from responsible dealers in all localities. We have a proposition of interest and profit to offer.

PROOF PRODUCTS

PATTON'S ALBA-LUX (WHITE LIGHT)

(Gloss, Flat, and Egg-Shell Gloss)

Patton's Alba-Lux (Gloss) is an Oil Paint for interior use; dries with a tough, elastic, enamel-like finish; will remain white; is easily kept clean; will withstand repeated washing; will not crack or flake off; is not affected by vibration, as of machinery.

Alba-Lux can be used for interior work on wood, metal, plaster, or cement, either when new or if previously painted. A list of possible consumers for Alba-Lux would be too large to enumerate, but it will be found without an equal for use in:

Textile mills, factories, packing houses, breweries, creameries, laundries, ice cream plants, markets, office buildings, department stores, elevator shafts, power plants, hospitals, and, in fact, any interior where a durable white, light-reflecting paint is desired.

Alba-Lux (Flat) is also an Oil Paint similar in every respect to the Gloss, except that it dries to a flat finish.

The liquids in Alba-Lux are specially treated Oils and are absolutely free from resin or resinous materials. The gloss in Alba-Lux is obtained without the use of varnish.

Alba-Lux works easily, flows freely, and dries with an elastic, tough, enamel finish. Under normal conditions the drying time is from twenty-four to thirty-six hours. It is always best, however, to allow as much time as is practicable to insure thorough drying.

Alba-Lux, as it comes in the package, is of the right consistency for proper working and covering.

Patton's Alba-Lux is very opaque and has wonderful hiding qualities. When applied according to directions on a suitable surface, Alba-Lux will cover approximately as follows:

Flat on new work, first coat, 300 to 500 square feet.
Flat on old work, first coat, 450 to 640 square feet.
Flat on new or old work, second coat, 400 to 600 square feet or one coat refinish.

Gloss on new work, first coat, 300 to 500 square feet.
Gloss on old work, first coat, 600 to 800 square feet.
Gloss on new or old work, second coat, 600 to 800 square feet or one coat refinish.

Alba-Lux (White Light) is used almost exclusively for its light-reflecting properties, consequently there is little demand for colors. If desired, however, both Gloss and Flat can be tinted with Oil Colors.

The demand for a paint like Alba-Lux is in the natural order of progress and is due to the modern desire for better light and better sanitation, both of which mean greater efficiency and therefore better profits in any large institution.

Alba-Lux saves electric light. It brings daylight inside. Well-lighted factories reduce the risk of accident to workmen and damage to machinery and merchandise.

Surfaces painted with Alba-Lux will not readily collect dirt or dust, can be washed repeatedly, and, consequently, kept bright, clean, and sanitary.

The use of Alba-Lux makes repainting less frequent. Sizes—Barrels; five-gallon and gallon cans.

PATTON'S ALBA-LUX, EGG-SHELL GLOSS

Especially adapted for surfaces where neither the high gloss nor the dull flat effect is desired. Dries to a true Egg-Shell Gloss finish.

Sizes—Barrels; five-gallon and gallon cans.

PATTON'S SUN-PROOF WHITE

(Paste)

Patton's Sun-Proof White is tri-pigment paint made in heavy paste form, and when reduced with Linseed Oil, Leptyne or Turpentine, and Drier makes a perfect liquid paint that is more durable and at the same time less expensive than paint made from White Lead only; can be tinted with Oil Colors to desired shade.

Strictly pure Linseed Oil is the only liquid used in the manufacture of Sun-Proof White.

The following figures represent the covering capacity of Sun-Proof White after being reduced according to directions for new or old work:

First, or priming coat, new work, 350 to 400 square feet, one coat. Second coat, new work, 600 to 700 square feet, one coat. Third coat, new work, 600 to 700 square feet, one coat.

PROOF PRODUCTS

First coat, old work, 500 to 600 square feet, one coat. Second coat, old work, 600 to 700 square feet, one coat.

Sizes—Hundred, fifty, twenty-five, and twelve and a half pound kegs.

PATTON'S SNOLITE

Patton's Snolite is a Semi-paste Paint, but so heavy that it requires thinning and manipulation by the Master Painter. Snolite is distinctly different from any product heretofore offered, possessing the following exceptional points:

When thinned for painting, Snolite has fully one-half greater opacity than paints now considered standard.

Is furnished in semi-paste consistency that permits of reduction at minimum expense, while at the same time meeting all conditions of surface and drying.

Can be used for tinting with any color and can be mixed with any other white pigment.

Produces a Paint which is incomparably superior for spray painting because it can be applied thin, covers perfectly, and is non-poisonous.

Dries to a smooth, high-gloss surface of superior whiteness which eventually chalks moderately, leaving an excellent surface for repainting.

After chalking for a considerable time, Snolite will continue still to obscure the surface as well as standard paints newly applied.

On chalking, tints become lighter, as do those made from White Lead, but on tests made over a wide range of territory and on a large amount of surface it has always been observed that a remarkable uniformity of color is maintained without predominance of blotched and variegated colors so often in evidence on a chalking surface.

Can be used in industrial sections around gas works or oil fields without discoloration from hydrogen sulphide fumes.

Produces a Paint which, when finally thinned for use, is highly economical when surface covered and opacity of film are considered, resulting therefore in a very considerable saving in cost and superior results.

Durability: The large percentage of Linseed Oil combined with chemically inactive pigments produces a theoretically perfect Paint. Not satisfied with theory, we tested out Snolite in various parts of the country for a period of years prior to placing it on the market during the Spring of 1921. The perfect paint-film retained by Snolite after exposure for four and five years under varying climatic conditions has abundantly supported our laboratory experiments.

In placing Snolite before the Master Painter, it has been considered that best results will be obtained by leaving the manipulation in general to him as required by diversified surfaces and conditions which he will encounter. Certain basic directions, however, must be followed if satisfactory results are to be obtained:

The pigments in Snolite are all chemically inactive and without drying action on oil. In consequence, Snolite must be handled differently from paint con-

taining a high percentage of White Lead, which acts as a natural drier and also tends somewhat to flatten the surface after drying. Do not fail to observe the following instructions:

Under the same conditions—always use more Drier with Snolite than with White Lead.

Always use Snolite thinner than White Lead. *This is most important.*

Under sub-normal drying conditions increase Drier and replace part of oil in Undercoater with Leptyne or Turpentine to improve drying and reduce gloss.

Under sub-normal drying conditions, not only increase Drier, but use up to one-eighth gallon Leptyne or Turpentine per gallon of finishing coat.

Slow drying in humid weather leads to many paint failures, where fault is generally unjustly laid to materials. Avoid painting under such conditions if possible and assume no responsibility for results.

Paint caught in frost while drying is practically certain to result in failure, regardless of what is used. After frosts begin, painting is undertaken at great risk. Do not paint when temperature is below fifty degrees.

Such woods as cypress and cedar, containing, as they do, substances which very seriously retard drying, require special treatment for priming coat.

Sizes—Five-gallon steel containers and Painters' Pots containing 289.75 cubic inches.

PATTON'S TITANIC LIQUID WHITE

Patton's Titanic White is a Paint in liquid form which embodies the unusual properties elsewhere obtainable only in the semi-paste form of Snolite.

It has the same extraordinary covering capacity, producing a paint-film good for long service and one which leaves the surface in excellent condition for repainting.

Sizes—Barrels; five-gallon, gallon, and quart cans.

PATTON'S SILK-WHITE VELUMINA

Different from the regular White Velumina in texture and in finish produced. Silk-White Velumina is ground to extreme fineness and dries with a slight sheen. Especially suitable for use as an undercoat in preparing surfaces for Enamel. It may be used with equal facility on plaster walls and wood trim.

Sizes—Barrels; five-gallon, gallon, half-gallon, quart, pint, and half-pint cans.

PATTON'S GREENONA

Greenona is a trade name for a Green in Oil in paste form, made in five shades. Adding eight gallons of Linseed Oil to 100 pounds of Greenona will yield about thirteen gallons of paint ready for use.

The covering capacity depends largely on the condition of the surface and thoroughness in brushing. Greenona, when properly reduced and applied, should cover approximately 325 to 400 square feet to the gallon, two coats.

Many Master Painters carry in stock some colors of this description because they keep well, and by adding oil and color the painter can make just enough paint of the desired shade to take care of his requirements.

PITTSBURGH PLATE GLASS COMPANY

Greenona is used extensively for house painting, trimming, store fronts, iron fences, and metal or wood telephone or telegraph poles.

Sizes—Sixty-pound buckets; thirty-pound pots; twenty-five, and twelve and a half pound cans.

PATTON'S FRENCH WASHED YELLOW OCHRE IN OIL

PATTON'S FRENCH CROWN GOLDEN OCHRE IN OIL

Made from Imported French Ochre; ground in strictly pure Linseed Oil to the consistency of a heavy paste. Used for tinting, with white or colored paints.

To reduce to brushing consistency, add six gallons of Linseed Oil and one-half gallon of Compo Drier to 100 pounds of Ochre. This will yield twelve and a quarter gallons of paint.

Sizes—Fifty-pound buckets; twenty-five, twelve and a half, five, and one-pound cans.

PATTON'S VENETIAN RED IN OIL

Venetian Red is ground in pure Linseed Oil to the consistency of a heavy paste. In the process of grinding, all the particles are thoroughly broken up and saturated with Linseed Oil.

By adding Linseed Oil, Leptyne or Turpentine, and Drier, a very durable and high-grade paint is made. This paint is very practical for painting barns, warehouses, and roofs, and for general exterior work.

To make a paint of good brushing consistency, add six gallons of Linseed Oil and one-half gallon of Compo Drier to 100 pounds of Patton's Venetian Red in Oil. This will yield about twelve gallons of paint.

Sizes—Fifty-five-pound buckets; twenty-five, twelve and a half, five, and one-pound cans.

PATTON'S SEVENTEENTH CENTURY WAX

A prepared Wax of natural color for polishing floors, standing woodwork, linoleum, furniture, automobiles, and the like. Ready for use without the addition of any other materials; spreads easily, and dries sufficiently hard in one-half hour for second application or for polishing.

One pound is ordinarily enough for about 300 to 350 square feet of surface, one application.

Sizes—Five, two, and one-pound cans.

PATTON'S ORIENTAL VARNISH STAIN

A perfect combination of Stain and Varnish. Each Stain is ready for use as it comes from the can, and stains and varnishes in one application. Anything made of wood and any kind of wood can be given a handsome finish of the desired color at a trifling cost.

This Stain is adapted for use on household furniture, floors, and interior woodwork, where one coat must complete the staining and varnishing process. Dries hard overnight.

We have with this line of Stain a Ground Color which we recommend for use as a first coater where Oriental Varnish Stain is used over old work.

Oriental Varnish Stain is made in these colors:

Cherry, Light Oak, Antique Oak, Mahogany, Walnut, Rosewood, Ebony, Moss Green, Ground Color.

Sizes—Gallon, quart, pint, and half-pint cans.

PATTON'S GRAINING COLOR

A Paste Paint, made in Light Oak and Dark Oak, to be thinned with Leptyne or Turpentine, applied over suitable ground coats, and worked, before it is dry, with graining combs and pads. When dry, Varnish is applied. The liquid used is pure Boiled Linseed Oil; the pigments, Umbers and Siennas reduced to shade with white pigments—semi-transparent in oil, and, therefore, well suited for use in graining colors. Solid, opaque colors would produce glaring contrasts, resulting in poor imitations of natural grain.

Patton's Graining Colors work easily and dry in about eighteen hours. If quicker drying is required or desired, a small amount of Compo Drier may be used in conjunction with the Leptyne or Turpentine for reducing.

Sizes—Five-pound and one-pound cans.

PATTON'S PASTE WOOD FILLER

Patton's Paste Wood Filler is made in heavy paste form, in Natural, Dark Oak, Mahogany, Golden Oak, light, and Golden Oak, medium. When reduced and applied to open-grained woods like oak, ash, chestnut, mahogany, and walnut, the Filler enters the pores of the wood, filling them completely, making it possible to get a smooth, even finish with subsequent coats of Varnish or Wax.

When reduced with Benzine, about one pound of Filler to one-half pint of Benzine, Patton's Paste Filler works and spreads easily and sets in about twenty minutes, ready for rubbing off. In about fifteen hours the Filler is dry enough for waxing and varnishing. One pound thinned according to directions, should fill about 150 square feet of surface.

Sizes—Fifty-pound kegs; twenty-five, twelve and a half, five, and one-pound cans.

PITTSBURGH OIL COLORS

Especially prepared, finely ground colors in oil, for the Master Painters' and Decorators' trade.

Lamp Black	American Vermilion
Drop Black	French Ochre
Chrome Yellow	Rose Pink
(Light, Medium, Dark)	Vandyke Brown
Indian Red	Light Oak Graining
Tuscan Red	Dark Oak Graining
Prussian Blue	Rose Lake
Raw Umber	Venetian Red
Burnt Umber	Chrome Green
Raw Sienna	(Light, Medium, Dark)
Burnt Sienna	

Sizes—Buckets containing from twenty-five to sixty pounds; and pots, from twenty-five to thirty pounds, depending on the weight of the different colors; also twenty-five, twelve and a half, five, and one-pound cans. (Prussian Blue also in one-half and one-quarter pound cans.)

PROOF PRODUCTS

PATTON'S LIQUID WOOD FILLER

Patton's Liquid Wood Filler is a preparation used for sealing and surfacing close-grained woods such as hemlock, pine, redwood, sycamore, cherry, gumwood, cypress, maple, and poplar.

It is an excellent first-coater or surfacer on all close-grained woods. Its chief function is to hold up and prevent absorption of the finishing coats of Varnish. Drying with a semi-flat finish, it requires but little sanding, making a firm, hard foundation for the succeeding coats of Varnish.

This filler may be used to advantage as a sizing or coating on walls before they are frescoed, as it prevents absorption and thereby gives an improved appearance to the finished work. A liquid wood filler never should be used on open-grained woods.

Sizes—Five-gallon, gallon, and quart cans.

RED SEAL LIQUID WOOD FILLER

A moderate-priced Wood Filler to be used for sealing and surfacing close-grained woods. Can also be used as a wall size.

Sizes—Five-gallon, gallon, and quart cans.

PATTON'S IRON AND STEEL FILLER

Patton's Iron Filler has been perfected for use directly on iron surfaces that are porous and uneven so as to give them a smooth surface for finishing coats.

To give an engine or machine a fine finish it is necessary that a surfacer be used which will in every way strengthen and improve the appearance of the finishing coats.

Patton's Iron Filler is a surfacer of this type. It is made of finely ground hard pigment and a special iron filler Japan.

Patton's Iron Fillers are furnished in a paste form which is easily applied and can be brought to a proper sanding surface in the minimum of time without rolling up under knife, leather, or cardboard. Where small imperfections are to be filled, the Iron Filler should be reduced with Naphtha to brushing consistency.

For airgun application a reduction of three parts of Filler to one of Benzine yields correct consistency.

Sizes—Barrels; fifty-pound kegs; twenty-five, and twelve and a half pound cans.

PATTON'S FRENCH GREEN SEAL ZINC COMPOUND IN OIL

Patton's French Green Seal Zinc is a French Process Zinc Oxide and Barytes ground in bleached Linseed Oil. It is used by the Master Painter for various purposes, the results to be obtained determining the method of mixing. It is used in connection with White Lead by painters wanting a combination paint; for enamel undercoater by mixing with turpentine; for making mixed paints for interior use by mixing with Linseed Oil, Leptyne or Turpentine, and Japan.

Sizes—Twenty-five, and twelve and a half pound cans.

PATTON'S FRENCH RED SEAL ZINC COMPOUND IN OIL

This is a product at a moderate price, very similar to Green Seal Zinc in Oil.

Sizes—Twenty-five, twelve and a half, five, and one-pound cans.

PATTON'S FRENCH ZINC IN DAMAR

French Zinc in Damar is an imported, high-grade Zinc Oxide, ground in Damar Varnish.

When mixed with Damar Varnish it produces a high-gloss White Enamel for interior use only.

The usual proportions for making Enamel are about seven pounds of Zinc in Damar to five-eighths gallon of Damar Varnish.

Can also be tinted if desired. It is best to tint Zinc before adding the Varnish.

Sizes—Twenty-five, twelve and a half, five, and one-pound cans.

PATTON'S GRAPHITE

(Paste)

Patton's Graphite is ground in pure boiled Linseed Oil to heavy paste form; is to be reduced to brushing consistency with Linseed Oil, Leptyne or Turpentine, and Drier; and is used for the same purpose as Patton's Liquid Graphite. Furnished in natural color only.

Natural Graphite, the pigment used, is recognized and accepted for its protecting and preserving qualities on metal surfaces.

When reduced to proper brushing consistency Patton's Graphite will cover from 300 to 350 square feet of surface, two coats, on new work; for old surfaces in bad condition three coats are recommended.

Sizes—Barrels; 250 and 100-pound kegs; twenty-five, and twelve and a half pound cans.

RED SEAL GRAPHITE

(Paste)

This is a moderate-priced paste Graphite, to be thinned with Linseed Oil, Leptyne or Turpentine, and Drier.

Sizes—Barrels; 250 and 100-pound kegs; twenty-five, and twelve and a half pound cans.

PATTON'S LIQUID GRAPHITE

A high-grade Graphite Paint in liquid form for painting and preserving iron and steel. Particularly suitable for structural steel, metal roofs, bridges, smokestacks, and boilers.

The liquid is Linseed Oil and a little Drier.

The pigment is a natural Graphite, a pigment recognized for its protecting and preserving properties on metal. Where colors are furnished it is necessary to reduce the percentage of Graphite to the extent of the amount of coloring pigment used to obtain the desired shade.

Graphite Paint brushes easily, dries in eighteen to twenty-four hours, has good, heavy body, and is non-fading.

PITTSBURGH PLATE GLASS COMPANY

When applied according to directions, one gallon will cover perfectly from 375 to 450 square feet of surface, two coats.

On new, unpainted surfaces three coats are recommended.

Sizes—Barrels; five-gallon and gallon cans.

RED SEAL LIQUID GRAPHITE

(Formerly Keystone)

Red Seal Liquid Graphite is a Graphite Paint in liquid form for painting and preserving iron and steel. It is sold at a moderate price and is intended for use where the question of low cost must be considered.

Sizes—Barrels; 100 and 200-pound kegs; twelve and one-half pound cans.

TUSCAR BARN PAINT

For rough work only. Will give satisfactory service on fences, sheds, etc. Made in Red only.

Sizes—Barrels; five-gallon and one-gallon cans.

PATTON'S BLACKBOARD SLATING

A liquid preparation to produce a smooth surface on wood, plaster, or composition board.

Surfaces finished with Patton's Blackboard Slating can be written on with chalk or crayon, and will not rub glossy by constant use of eraser.

A paint for this purpose must be thin, to produce a surface that will not crack or chip off. Blackboard Slating will dry in about one hour after being applied.

Sizes—One-gallon, quart, pint, and half-pint cans.

PATTON'S CRACK PACK

Crack Pack is a non-shrinking, non-absorbent composition for filling cracks and crevices in floors and imperfections in wood.

Crack Pack is about the consistency of putty and works about the same. Under ordinary conditions it will dry in from twenty-four to forty-eight hours; where cracks are very large and deep, more time may be required.

Sizes—Five-pound and one-pound cans.

PATTON'S SHUFLI SCREEN PAINT

Shufl Screen Paint is a quick-drying, high-gloss, durable Varnish Paint for painting the mesh or frames of screen doors and window screens. Shufl is made in two colors, Black and Green.

The liquids are made from quick-drying, durable, Exterior Varnishes.

For making the Green we use chemically pure Chrome Green, and for the Black, pure Carbon Black.

Shufl Screen Paint brushes easily and will dry sufficiently hard overnight to permit use of screens the following day.

Shufl Screen Paint is purposely made thin to avoid clogging the screen-wire mesh and to facilitate drying.

In most cases one coat of Shufl Screen Paint will

suffice. When framework is new or in very bad condition two coats may be necessary.

Ordinarily one pint of Screen Paint will be sufficient to paint the mesh of one dozen average-size window screens or about eight doors.

Sizes—One-gallon, quart, pint, and half-pint cans.

PATTON'S STOVEPIPE ENAMEL

Patton's Stovepipe Enamel is a quick-drying, high-gloss, durable, and heat-resisting jet black Varnish Paint for refinishing stovepipes, hot-air furnaces, coal scuttles, or other metal surfaces. Can also be used for exterior work where a gloss black finish is desired. It is not intended for use on superheated surfaces. No paint will wear satisfactorily on metal surfaces that become red hot or come in direct contact with flames.

Stovepipe Enamel is medium-heavy in consistency and has good covering qualities, one coat usually being enough. If an extra finish is desired, two coats should be applied.

Stovepipes should be carefully cleaned inside and out and painted before being stored.

Sizes—Pint, half-pint, and quarter-pint cans.

PATTON'S SUN-BRIGHT METAL POLISH

Patton's Sun-Bright Metal Polish is a liquid preparation for cleaning and polishing brass, nickel, and copper. It is quick-acting and effective, and produces a high lustre that does not tarnish.

Sun-Bright Metal Polish will not scratch.

Safe to use, as it is non-inflammable.

The pigments do not settle hard in the package and every drop of Sun-Bright Metal Polish can be used effectively.

Sizes—Gallon, quart, pint, and half-pint cans.

PATTON'S SUN-BRIGHT FURNITURE POLISH

Patton's Sun-Bright Furniture Polish is a liquid preparation for cleaning and polishing all varnished interior surfaces.

It contains no acid or other injurious ingredients. Cleans and polishes easily with little labor. Polished surface will not develop a bloom.

Sun-Bright Furniture Polish should be well shaken before using, applied with a rag, rubbed dry, and polished with a soft cloth.

Sizes—Gallon, ten-ounce, and six-ounce cans.

PATTON'S DISTEMPER COLORS

Patton's Distemper Colors are for use in fresco work and cold-water painting. They are made from pure high-grade Lampblack, Drop Black, Vandyke Brown, imported Italian Siennas, and imported Turkey Umbers, ground extremely fine in water.

The advantage of using pure colors is in their strength and covering quality and their full body when dry—a faded-out appearance does not result, as would be obtained were reduced colors used.

PROOF PRODUCTS



PITCAIRN AGED SPAR VARNISH

NO EXPENSE has been spared in building the strongest possible organization in our manufacturing department. The best talent obtainable has been secured. Our two factories are equipped with modern chemical apparatus, laboratories, and every convenience for the scientific manufacture of Varnishes of the highest quality. We know, by actual proof, the true worth of each individual product and its relative value compared to highest market standards, which justifies the claims we make for quality.

Pitcairn Aged Spar Line of Varnishes represents the Pitcairn Idea of the best Varnishes that can be made for architectural wood-finishing, as well as the most satisfactory moderate-priced Varnishes.

The great popularity Pitcairn Aged Spar Varnishes are enjoying at this time among the more exacting wood-finishers throughout the country is due principally to the universal satisfaction they are giving. Any unprejudiced judge of good materials who has used these Varnishes will acknowledge their excellence.

The raw materials—gums, oils, and thinners—are cooked and made into the finished Varnishes by expert workmen, under supervision of our chemical staff. Our trade-mark and label and the sealed package are the purchaser's guarantee that the quality will be

found as represented. They are his protection and insurance of most satisfactory results.

IMPORTANT

The varying conditions and temperatures under which Varnish is applied forbids the naming of a definite drying-time. Therefore, the drying-time named herein is approximate. Care should be taken to have one coat dry before another is applied.

A Varnish never should be rubbed until after it has thoroughly hardened.

Varnish works best in a temperature of from seventy-five to eighty degrees Fahrenheit. In cold weather, when it is not possible to warm the room in which varnishing is being done, it may be necessary to add a little Turpentine to the Varnish. Be careful not to add too much.

Use Leptyne or Turpentine for cleaning brushes.

Do not pour Varnish back into the can.

Keep can well corked.

Never apply Varnish to a waxed surface without previously removing the wax.

Varnish will not dry and harden properly without good light and perfect ventilation. Keep Paints and Varnishes away from fire.

PITTSBURGH PLATE GLASS COMPANY

ARCHITECTURAL VARNISHES

PITCAIRN MAST SPAR

A Marine and Exterior Varnish for Use Where Extreme Durability is Demanded

Best Exterior Varnish.

Where great durability is required, it proves its superiority under the most trying conditions. It is not affected by salt or fresh water and has great elasticity and wearing qualities. Will not scratch or mar white. Dries dust-free in ten to twelve hours and hard in forty-eight hours. May be used over natural woods, painted or grained surfaces.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN DECK SPAR

A popular, reliable and satisfactory Varnish for boat decks, outside doors, and similar exposed surfaces. A good finishing Varnish for natural wood, painted or grained surfaces that are exposed to the weather. Elastic and hard-drying. Sets dust-free in eight to ten hours and hardens in three to four days.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN FINISHING SPAR

The best Varnish made for all fine interior architectural finishing. Has exceptionally free, easy-working qualities, great body brilliancy and permanence, sets dust-free in eight to ten hours, and hardens in two days; may be rubbed in three days.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN FLOOR SPAR

A most popular, satisfactory and best-selling Floor Varnish.

Works perfectly under the brush; has great elasticity and brilliancy; will not mar white. An excellent Varnish for general interior finishing.

One or two coats of Floor Spar over linoleum will bring out the colors and greatly increase its life.

Sets dust-free in eight hours and hardens in twenty-four hours.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN FLAT VARNISH

For Artistic Interior Work

Very transparent—brings out the color of the wood and produces a richer and softer effect than Gloss Finish. Smooth and free from gritty particles.

Dries with an even, flat finish that has the appearance of being rubbed. Has the body and durability of Gloss Varnish—protects perfectly the surface to which it is applied and may be used on either new or old work.

One coat is sufficient to produce a dull, rubbed effect on old work or over an undercoat of Gloss Varnish for new work.

Where an oil-rubbed effect is desired, add one-quarter gallon of Pitcairn Finishing Spar to each gallon of Pitcairn Flat Finish.

Two coats applied to a new wood over Filler will produce a silky, soft mission effect.

Works nicely under the brush, flows out well—dries dust-free in two hours and hard in twenty-four hours; may be coated with a Gloss Varnish, or as many coats may be applied as are necessary.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

CABINET RUBBING AND POLISHING SPAR

Best Varnish for interior and architectural finishing. Has exceptionally free, easy-working qualities, body brilliancy, and permanence.

Sets dust-free in eight to ten hours and hardens in two days; may be rubbed in three days.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN MASTER PAINTERS' SPAR

For General Interior Work

A brilliant, satisfactory, free and easy-working Varnish, intended for all general interior finishing.

Dries dust-free in about eight hours, hardens in about thirty-six hours. Rubs nicely to a full finish.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN PAINTERS' COACH

A reliable and satisfactory medium-priced Varnish. For high-gloss interior work.

Dries dust-free in about seven hours and hardens in three days. Has good body and works nicely.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN CHURCH PEW AND SEAT FINISH

An exceedingly hard-drying Varnish, which will never soften or become tacky under the heat of the body. Very tough—dries dust-free in six hours and hard in twenty-four.

For use on church and school seats, chairs, desks, table tops, and the like. Dries with brilliant gloss, rubs well, and takes a fine polish.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN COMPO DRIER

A safe, reliable and economical Japan Drier—sold only in sealed cans.

To make paint dry and work properly and still retain its durability a good Japan Drier must be used; to have paint always uniform a Drier of uniform strength must be used.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PROOF PRODUCTS

PITCAIRN PURE BATAVIA DAMAR

In this finish the best grade of Batavia Gum is used.

The Varnish is of extremely pale color and especially adapted for use in making White Enamels or for finishing white or very light surfaces. It has good body, works nicely, and dries perfectly.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN TO-YO-LAC

This Varnish is especially prepared for finishing cabinet work, furniture, chairs, tables, desks, and seats, whether in polished, dull rubbed, or gloss finish. Equally satisfactory for manufacturer or repairman, being in fact one of the few really safe varnishes for repairmen's use.

To-Yo-Lac works very smoothly and freely, flows well, and has excellent wearing quality. A coat may be applied every day; last coat may be rubbed after thirty-six to forty-eight hours. Sets to the touch and dries dust-free in two hours. Furniture finished with To-Yo-Lac may be safely rubbed and shipped in hottest weather without danger of printing.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

BRONZING LIQUIDS

See page 176, in the Sundries Section.

BULK VARNISHES

See Manhattan Varnishes, page 73.

PITCAIRN PUBLIC BUILDING VARNISHES

Made according to government specifications.

These Varnishes are composed only of selected Fossil Gums, pure refined Vegetable Oils, pure Spirits of Turpentine, and pure Driers. They are free from other products of any character whatsoever. Great care is exercised in their making and aging.

No. 1080—PITCAIRN INTERIOR PUBLIC BUILDING VARNISH

This Varnish has a brilliant lustre, good body and color, and excellent working, drying, and hardening qualities. Sets dust-free in four hours and may be recoated in twenty-four hours.

It hardens sufficiently to take a dull rub on the third day and may be polished on the fourth day.

An exceptionally satisfactory all-around finishing Varnish. For use on cabinet work, etc., interior finish, seats or pews, table tops, fixtures, floors.

Sizes—Barrels; five-gallon and gallon cans.

No. 1081—PITCAIRN EXTERIOR PUBLIC BUILDING VARNISH

This Varnish has excellent body and color, free working and flowing qualities. It dries with a brilliant lustre that will withstand severe exposure, wear and tear.

Does not scratch or mar white and is not affected by fresh or salt water.

Sets dust-free in six hours and hardens in two to three days.

Used wherever great durability is required, such as outside doors and windows, Water Craft and Marine Finishing, whether over natural wood, painted, or grained surfaces.

Sizes—Barrels; five-gallon and gallon cans.

No. 1391—PITCAIRN PUBLIC BUILDING OIL DRIER

This Drier is composed of pure Lead and Manganese, pure Turpentine, pure Fossil Gums, and refined Vegetable Oils. It is free from all other products of any character, whatsoever.

Strong, safe, and reliable.

It is a good mixer with all pigments, and may be added to all paints or oils for the purpose of hastening their drying.

Five per cent of Pitcairn Public Building Oil Drier (No. 1391) added to raw Linseed Oil will cause it to dry to the touch in seven hours.

NOTE: An original analysis of any or all of the above, over the signature of our chemist, will be furnished upon request.

Sizes—Barrels; five-gallon and gallon cans.

PITTSBURGH PLATE GLASS COMPANY

EMPIRE VARNISHES

Carefully made from selected raw materials. Empire Varnishes may be used for the various purposes for which they are intended with a feeling of entire security that the work will be satisfactory. Empire Varnishes are easy-working, brilliant, and durable.

WHITE ENAMEL

A popular-priced White Enamel, adapted for use on all interior decorative work, giving a brilliant, durable finish.

Produces a hard, non-absorbent, pure white surface that will retain its color and brilliance. Works well and flows out, leaving a smooth, white finish, free from brush marks or laps. Has good covering qualities. May be used on any surface—wood, metal, brick, or plaster, and for old or new work after the surface has been prepared with flat undercoats. Dries dust-free in twelve hours and hardens in twenty-four hours. A bluish hue, an ivory cast, or delicate tints may be produced by the addition of a small amount of Ultramarine Blue, Chrome Yellow Medium ground in oil, or other pure tinting colors.

Sizes—Five-gallon, gallon, half-gallon, quart, pint, and half-pint cans.

INTERIOR FINISH

A durable Varnish for general work on interior surfaces in either public or private buildings. Very pale in color, elastic, free-working, dries with a brilliant lustre, and may be rubbed to a dull finish or polished if desired. Sets dust-free in about ten hours and hardens in three to four days.

Sizes—Five-gallon, gallon, half-gallon, quart, pint, and half-pint cans.

FLOOR FINISH

A durable finish for hardwood floors, linoleum, table tops, and similar uses. Dries hard overnight, conditions being favorable. It is elastic, light in color, and will not scratch or mar white. Because of its toughness, Empire Floor Finish makes an excellent Varnish for general interior work.

Sizes—Five-gallon, gallon, half-gallon, quart, pint, and half-pint cans.

FLAT FINISH

One coat is sufficient to produce a dull, rubbed effect on old work, or over an undercoat of Gloss Varnish on new work. One coat applied to new wood over Filler or Stain will produce a beautiful, silky, soft mission effect.

Flat Finish is transparent, brings out the color of the wood, and produces a richer and softer effect than Gloss Varnish.

Sizes—Five-gallon, gallon, half-gallon, quart, pint, and half-pint cans.

OLD FASHIONED No. 1 COACH

A High Gloss Varnish for interior woodwork and for painted surfaces. Very satisfactory for all ordinary purposes. Has good body, works freely, and will dry hard in thirty-six hours. Recommended to those wanting a good article at a popular price.

Sizes—Five-gallon, gallon, half-gallon, quart, pint, and half-pint cans.

FURNITURE VARNISH

This Varnish is intended for household purposes and repair work where a quick-drying Gloss Finish is required. Has light color, good body, and sets hard in twenty-four hours. We recommend it to those wanting a bright finish at a reasonable price.

Sizes—Five-gallon, gallon, half-gallon, quart, pint, and half-pint cans.

ASPHALTUM

Our aim in the manufacture of this Black has been to produce an article which will dry with a high, glossy-black finish, and one that will be satisfactory as a one-coat Black Finish. Suitable for use on all kinds of metal surfaces, such as wire screens, stove-pipes, iron fences, hot and cold water pipes, agricultural implements, and castings of all kinds. It will prevent rust and deterioration and prolong the life of metals to which it is applied. By reason of its composition, this Black may be relied on to withstand a high degree of heat. May be reduced with Turpentine or Naphtha. Sets dust-free in two hours and hardens in twelve hours.

Sizes—Five-gallon, gallon, half-gallon, quart, pint, and half-pint cans.

LIQUID WOOD FILLER

A good grade of Liquid Wood Filler for general work. Extra light in color and may be used on light woods without darkening them. Contains a transparent mineral pigment intended to be used as a First-coater or Surfacer on close-grained woods. Seals the surface, making a non-porous foundation for Varnish coats. May be reduced with either Leptyne, Turpentine, or Benzine. Dries hard over night. Sandpapers nicely. Can safely be coated over the next day without danger of checking or shrinking. One coat of Empire Liquid Wood Filler and one coat of Varnish will produce a finish which will be found satisfactory for all cheap work.

Sizes—Five-gallon, gallon, half-gallon, quart, pint, and half-pint cans.

PROOF PRODUCTS

PITCAIRN AUTOMOBILE VARNISHES

These Varnishes are so made as to withstand, for the longest time possible, the exposure, hard knocks, and wear and tear to which automobiles are subjected.

In bringing them to their present state of perfection, special attention has been given to the requirements of the modern finisher of fine automobiles. Time is an important factor in modern automobile finishing. Pitcairn Aged Automobile and Carriage Varnishes permit of the finest work being turned out in a minimum of time. They are not sensitive to atmospheric changes while in the process of drying. Their use insures the maximum of durability to be obtained in automobile finishing.

The body Varnishes are made of the finest materials obtainable, have exceptionally free-flowing qualities, are pale in color, dry free from dust quickly, and yet set slowly enough to enable the finisher to make a perfect job on the largest surfaces.

The gear Varnishes are especially prepared to withstand the frequent washing and constant exposure, grease, dust, and dirt, to which automobile gear and chassis are subjected. They are full-bodied, pale in color, free-working, and will withstand severest usage. When used on exposed surfaces they are especially adapted to the requirements of Railway Car Finishing. They will withstand the severe wear and tear encountered in Railway and Car Service.

PITCAIRN EXTRA PALE AUTO WEARING BODY

For Use over Lightest Colors on Finest Work

This Varnish is intended to be used on the finest body-finishing, where extreme paleness of color, brilliancy, and great durability are required. Flows out perfectly, sets slowly, permitting best results on largest surfaces. Dries dust-free in eight hours and hardens in three to four days.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN FINEST AUTO WEARING BODY *Best Auto Finishing Varnish*

This Varnish is intended for use on the finest Motor Car Finishing. Pale, durable, free-working, safe Varnish. Dries free from dust in eight hours, yet sets slowly, thus allowing ample time to make a perfect job on the largest surface. Hardens in three to four days.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN AUTO HARD-DRYING BODY *For Finishing Coats*

Especially intended for durable, hurried work, where a heavy-bodied, free-working, good-drying Varnish is required. Is brilliant, safe, and durable.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN ONE-COAT AUTO

A One-Coat Finishing Varnish for Hurried Work

Heavy-bodied; dries sufficiently hard to handle in twenty-four hours. Possesses good gloss, works freely, and is very durable.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN PALE AUTO CHASSIS OR ELASTIC GEAR

For Use over Lightest Colors on Finest Work

Intended for use on chassis and underparts, where extreme paleness of color, brilliancy, and durability are required. Very free-working, dries dust-free in six hours, and hardens in two days.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN HEAVY GEAR

A Heavy Varnish for Work on Chassis and Wheels

For use in finishing wheels and underparts of automobiles and carriages, where a heavy Varnish is required. Has free-working qualities; brilliant and durable. Dries dust-free in six hours and hardens in two days.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN HARD-DRYING GEAR *For Finishing Coats*

A full-bodied, brilliant, quick-drying Gear Varnish. Dries dust-free in six hours and hardens in twenty-four to thirty-six hours.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN PALE AUTO RUBBING BODY *A Four-Day Rubbing Varnish*

For undercoats on finest work over lightest colors. Especially desirable for use under our Extra Pale Auto Wearing Body Varnish. Possesses good leveling qualities and dries to rub in four days.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITTSBURGH PLATE GLASS COMPANY

PITCAIRN QUICK-RUBBING

A Two-Day Rubbing Varnish

Always safe and reliable. May be rubbed close without sweating in forty-eight hours.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN DOUBLE-QUICK RUBBING

Quick-drying, free-working. Can be rubbed in twenty-four to thirty-six hours.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN EXTRA BLACK BODY-RUBBING

For Undercoats on Automobile and Carriage Bodies

Produces a deep, black finish. When used over flat black, produces a hard, tough surface. Can be mossed in twenty-four to thirty-six hours and ready for re-coating with clear rubbing.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN BLACK BODY-RUBBING

For undercoats on carriage bodies, producing a deep finish when used over flat black color.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN WAGON COACH

For Finishing Auto Trucks and Wagons

Where great durability and free-working qualities are required. Dries dust-free in six hours and hardens in twenty-four hours.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN JAPAN GOLD SIZE

Also Used as a Binder for Drying and Hardening Colors—May be Mixed with Varnish

Pale Japan for leaf sizing. A good, safe Drier for Color, Rough Stuff, and hard putty.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN PALE COACH JAPAN

Very strong, light in color, quick drying. Used principally for binding Colors.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN ROUGH STUFF

Always Reliable and Satisfactory

A perfect filler for automobile, carriage, and coach finishing. Produces a smooth, solid, non-porous surface on which to build the final finish. Cuts down, without clogging the pumice stone.

Sizes—Five-gallon, gallon, quart, and pint cans.

PITCAIRN AIR DRYING BODY AND FENDER ENAMEL

An especially high-grade, free-flowing, solid-covering Jet Black Finishing Enamel, suited for brush work on auto bodies, fenders, hoods, gears, and all metal parts. Works like Finishing Varnish and dries with a full, brilliant lustre. Sets dust-free in six hours, and hardens in thirty-six hours.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN BLACK ELASTIC BAKING FINISHING ENAMEL

A high-grade, Jet Black Enamel. May be applied by either brushing or dipping. Produces an extremely tough, elastic, and enduring finish on automobile fenders, hoods, and metal parts. Bake it in 280 degrees of heat for three hours.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN BLACK UNDERFRAME ENAMEL

Covers Solid Black in One Coat

Not so heavy-bodied or free-flowing as Pitcairn Body and Fender Enamel. Use on smaller surfaces and running parts. A general-purpose, tough, jet black, brilliant Finishing Enamel. Dries overnight and hardens in twenty-four hours. Withstands a high degree of heat on radiators. May be baked lightly up to 175 degrees and is then ready for use after two hours. In addition to using for running parts on autos, also use on inside of wagon or truck boxes, battery boxes, iron fences, school seats, or stoves.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

TRANSPARENT SEALER

Made from Pitcairn Waterspar Varnish

Dries dust-free in two hours and hardens overnight. Never lets go. Insures an elastic foundation for other finishing materials. Is waterproof and a superior Rust Preventive.

We recommend that Waterspar be reduced one-third with Turpentine and used on new work as a Transparent Sealer, Rust Preventive, and Priming Coat on all metal bodies and other metal surfaces that are to be painted or finished. Also for use as a Primer on wooden wheels. When used as a sealer it must not be sanded. After allowing twenty-four hours for drying, continue with succeeding coats.

PIGMENT PRIMER

To be Made in the Shop

A Pigment Primer can be made by mixing two or three pounds of Pitcairn Rough Stuff, or two or three pounds of Iron Oxide (Red) ground in oil, to the gallon of Waterspar. This Pigment Primer should be used over Transparent Sealer. Use as a sealer and surfacer (after sanding) on old work that is badly cracked, checked, and more or less porous and absorbent. For this work a small amount of color to match the body coat should be added. Apply one

PROOF PRODUCTS

thin coat, allowing twenty-four hours for drying. Then proceed with the color coats.

Use Transparent Sealer, made from Waterspar, over Rough Stuff after it has been rubbed or blocked. This stops suction and makes an excellent undercoater for succeeding color coats.

This transparent sealer made from Waterspar is an excellent crank-case sealer and a preservative coating for underframes and all kinds of metal auto parts while in stock, before being assembled into cars.

PITCAIRN MOHAIR TOP DRESSING

For Waterproofing and Preserving Old and Worn Auto Tops

This is an Oil-base Dressing and while drying a little more slowly than Spirit Dressings the results are

much superior. This material preserves and renews old tops and can be used with perfect safety, as there is nothing in it to injure the fabric. It is easily applied and dries ready for use the next day. When used on pantasote auto tops, it dries out with a semi-gloss oil finish.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN CARRIAGE TOP DRESSING

For carriage tops and aprons. Dries hard in forty-eight hours, yet remains elastic. This material contains more pigment than the Mohair Top Dressing and dries out with a brilliant jet gloss.

Sizes—Five-gallon, gallon, half-gallon, quart, and pint cans.

PITCAIRN JAPAN COLORS

Pitcairn Japan Colors are of the highest standard of quality. The clear, brilliant tones obtained are due to the purity of the raw materials used in their manufacture. These materials, with a few minor exceptions, are manufactured within our organization. Absolute constancy of shade and strength is assured by rigid laboratory tests.

Japan Colors have to be ground according to a special method. We do this work under expert supervision. Pitcairn Japan Colors will meet the most exacting demands of the critical finisher. For clearness and brilliancy of shade, richness and depth of tone, they have no equal.

Sizes—Five-pound and one-pound cans.

LIST OF COLORS

BLACKS

Ivory Drop Black
E-Ivory Drop Black
Superfine Ivory Drop Black
Lamp Black

GRAYS

French Gray
Auto Body Gray, Light
Auto Body Gray, Medium
Auto Body Gray, Dark

WHITES

Silver White
Flake White

BLUES

Azure Blue
Electric Blue
Perfect Blue
Ultramarine Blue
Prussian Blue
Royal Blue
Auto Body Blue
Blue Groundwork

IVORY AND YELLOWS

Ivory
Sulphur
C. P. Chrome Yellow, Light
C. P. Permanent Yellow
C. P. Chrome Yellow, Medium
C. P. Chrome Yellow, Orange
C. P. Chrome Yellow, Deep
Orange
Golden Ochre
Old Gold

BROWNS

London Smoke
Golden Brown
Amber Brown
Raw Sienna
Burnt Sienna
Raw Umber
Burnt Umber
Vandyke Brown

REDS

English Rose Lake
Venetian Red
Vermilion
Gear Red, Light
Gear Red, Dark

Auto Body Red, Light
Auto Body Red, Dark
Coach Painters' Red
Special Carmine
No. 40 Carmine
Tuscan Red
Maroon
Light Red Groundwork
Dark Red Groundwork

GREENS

Lemon Green
Bright Olive
Bronze Green
Pullman Car Color
Pea Green
Kentucky Green
Milori or C. P. Chrome Green, Light
Milori or C. P. Chrome Green, Medium
Milori or C. P. Chrome Green, Dark
Coach Painters' Green
Light Quaker Green
Light Brewster Green
Dark Brewster Green

PITTSBURGH PLATE GLASS COMPANY

PITCAIRN COLORED RUBBING VARNISHES

In the manufacture of Colored Rubbing Varnishes, only pure Colors and best Auto Rubbing and Mixing Varnishes are used. This insures clean, clear, and brilliant tints under the Finishing Varnish.

The stock shades of Colored Rubbing Varnishes are: Extra Black, Black, Gray, Blue, Yellow, Green, and Red.

Sizes—Gallon, half-gallon, and quart cans.

The automobile painter may make his own color varnishes, mixing his actual requirements from day to day. This will insure fresh stock always. By use of Pitcairn Japan Colors and Quick Rubbing Varnish complete satisfaction becomes a certainty.

TO MAKE COLORED RUBBING VARNISHES

Mix the following quantity of the various colors with Pitcairn Rubbing Varnishes in quantities depending upon the desired density of color.

Blacks—Mix one and one-half pounds of color to the gallon of Varnish.

Grays—Mix three to four pounds of color to the gallon of Varnish.

Blues—Mix two to three pounds of color to the gallon of Varnish.

Yellows—Mix four pounds of color to the gallon of Varnish.

Browns—Mix three pounds of color to the gallon of Varnish.

PITCAIRN SYSTEM FOR BODY FINISHING

	FOUR-DAY SYSTEM (FOR QUICK COMMERCIAL WORK)	SIX-DAY SYSTEM	EIGHT-DAY SYSTEM
FIRST DAY	One coat Pitcairn Elastic Pigment Primer	One coat Pitcairn Elastic Pigment Primer	One coat Pitcairn Elastic Pigment Primer
SECOND DAY	Two coats Pitcairn Sanding Surfacer	Two coats Pitcairn Sanding Surfacer. Brush first coat; knife second coat	Two coats Pitcairn Rough Stuff. Knife second coat
THIRD DAY	Sand out. One coat Japan Color thinned with Turpentine. One coat Color Rubbing Varnish	Sand out. One coat Japan Color thinned with Turpentine. One coat Color Rubbing Varnish	Two coats Pitcairn Rough Stuff
FOURTH DAY	Rub lightly. One coat Pitcairn Finest Auto Wearing Body Varnish	One coat Pitcairn Quick Rubbing Varnish.	Rub out. One coat Japan Color thinned with Turpentine. One coat Color Rubbing Varnish
FIFTH DAY		Dry	Dry
SIXTH DAY		Rub out. One coat Pitcairn Finest Auto Wearing Body Varnish	One coat Pitcairn Extra Pale Rubbing Varnish
SEVENTH DAY			Dry
EIGHTH DAY			Rub out. One coat Pitcairn Finest Auto Wearing Body
TOTAL:	SIX COATS	SEVEN COATS	NINE COATS

If metal shows signs of rust, sandpaper and wash with naphtha and apply one coat of Pitcairn Transparent Sealer under the Pitcairn Elastic Pigment Primer. This seals in the rust and makes an elastic and adhesive coat which will insure against peeling from oxidized spots.

PROOF PRODUCTS



PITCAIRN SPIRIT LACQUER

Pitcairn Spirit Lacquer is a Spirit Varnish intended to do the work of Shellac for first coating, sealing, and priming purposes. It is made of carefully selected Fossil Gum and high-proof Alcohol. Pitcairn Spirit Lacquer can be used for brush, spray, or dip work with satisfaction. It dries and works similar to Shellac and insures an important saving in the cost of the finished job, as compared with Shellac Varnish.

Pitcairn Spirit Lacquer works freely and easily under the brush, making it suitable for use on large surfaces. It does not raise the grain and leaves a transparent film slightly heavier than Shellac. Spirit Lacquer sands readily and with little labor. It dries to handle in thirty minutes and is ready to varnish over or to sand in two hours. Spirit Lacquer can be used as a sealer for bleeding Stains as well as under Varnish. It mixes readily with Shellac.

Sizes—Barrels; five-gallon, gallon, and quart cans.

PITCAIRN LEPTYNE

For Thinning and Reducing All Kinds of Paints

Leptyne has a flash-point equal to that of Turpentine; therefore is equally safe to use. The minimum flash-point is guaranteed to be ninety-five degrees Fahrenheit, closed test.

The evaporation is one hundred per cent. This takes place slowly, permitting the painter to secure the maximum spreading and flowing qualities, obtaining greater penetration, and thus assuring the two greatest essentials—life and economy.

The supply of Turpentine is gradually diminishing while the demand for paint thinners increases. Leptyne has been on the market for more than ten years, during which time the demand has increased steadily. It has the indorsement of, and is used regularly in many of the best shops and by large manufacturers who test all new materials most thoroughly before adopting them. Because, for all paint purposes, Leptyne is fully equal to Turpentine (for some work it is superior), paint-users will find it well worth while to give it a regular place in their paint shops.

Sizes—Steel barrels and five-gallon cans.



PITCAIRN PAINT AND VARNISH REMOVER

A double-quick, double-power Remover for removing Paint, Enamel, Varnish, Shellac, Wax, and Gums. A great work-saver and time-saver. Pitcairn Remover will penetrate and soften several coats of old Paint, Varnish, Shellac, Wax, or Gums, so that they may easily be removed from the surface with scrapers or with a benzine cloth and with no necessity for hurrying. The Pitcairn Remover keeps the material soft until the user is ready to take it off, and when cleaned the surface will be ready for refinishing.

NOTE: Pitcairn Remover contains no strong acids and therefore will not injure the hands.

Sizes—Gallon, half-gallon, quart, pint, and half-pint cans.



MANHATTAN VARNISHES

This is an inexpensive line of Varnish intended for the cheaper grades of work and is sold principally in bulk. Packed in barrels and in five-gallon and one-gallon cans.

LIST OF MANHATTAN BULK VARNISHES

Oxford Light Hard Oil Finish, Light Oil Finish, House Painters' Japan, B Japan Drier, Extra Gloss Oil, No. 1 Furniture Varnish, Pure Egyptian Asphaltum, Egyptian (B) Asphaltum, Ceiling or Sizing Varnish, Arabian Iron Enamel.

PITTSBURGH PLATE GLASS COMPANY



PITCAIRN BANZAI ENAMEL

For All White Work

For specifications for use, see Nos. 84 to 87, on page 95

For examples of results, see pages 98, 99, 103, 104, 105, 106, 107, 108, 109, 112, 115, 116, 117, 118

THIS is the finest quality White Enamel. Its remarkable elasticity and durability make it suitable for all kinds of work, inside and out, in all climates.

A distinctive characteristic of Banzai is its wonderfully free, easy-working, and easy-flowing quality. It levels out perfectly, leaving no laps or brush marks, resulting in a finish that is as smooth, brilliant, and immaculately white as fine china. The superior covering properties of Banzai Enamel insure a perfect finish with fewer coats. Banzai Enamel is the most economical of all white interior decorative materials, because of its long life. It will retain its toughness and elasticity for many years. Even though the finish become soiled the film will still remain and another coat may be applied without removing the old coatings.

Because of the smoothness and hardness of the Banzai Enamel film, it does not absorb dirt and grease. Woodwork is therefore very easily cleaned.

The great spreading capacity of Banzai Enamel insures an economical square-yard cost.

Banzai Enamel is made in High-Gloss and Egg-Shell finish.

For preparing the surface, use Banzai Double-Cover Undercoater over Tector Primer.

Banzai Enamel may be tinted by using Patton's Pure Oil Colors.

Banzai Double-Cover Undercoater is made especially for use with Banzai Enamel. It will insure a most satisfactory and lasting job of Enamel finishing.

Sizes—Gallon, half-gallon, quart, pint, and half-pint cans.

PROOF PRODUCTS



PITCAIRN TECTOR

*The Great Undercoater—A Tough and Durable
Primer, Filler, and Surfacers*

TECTOR is a filler and first-coater, neutral in color, for general priming purposes. The pigments are transparent and ground to minute fineness. Tector is made in heavy liquid form and must always be reduced with Leptyne, Turpentine, or Benzine. It dries with a permanent elasticity, producing a coating as tough as whalebone.

Tector can be successfully used for the priming coat on wood, galvanized iron, cement, metal, brick, plaster, burlap, or canvas; under paint, varnish, enamel, and wax; on both exterior and interior work. There is no substitute for Tector, and no other primer or first-coater will produce similar results.

Tector is a distinct and radical departure from the commonly-known liquid fillers or undercoat materials. The idea that anything is good enough for a priming coat is decidedly wrong; it is of the greatest importance that the proper material be used for the purpose.

To prevent collapse, the foundation of any building must be carefully and scientifically planned and constructed. A building will not stand after the foundation gives way; so it is with Varnish, Enamel, or Paint. No finishing material can be more durable or permanent than the priming coat. The use of ordinary Liquid Fillers, Shellacs, and similar undercoaters definitely limits, because of their brittleness, the durability of the finishing material applied over them. Liquid Filler is composed of inert pigments and a resinous binder. It does not penetrate, but dries quickly on the surface. It is extremely brittle, consequently its use limits the permanence of the finished job. Shellac has its value in some classes of work, but also is brittle, impervious, and resinous. Shellac should not be used under finishing material that must

withstand wear and weather or is subjected to abrasion. Use Tector—it will add to the durability of the finish. Because of its great toughness it will prevent cracking, checking, or peeling.

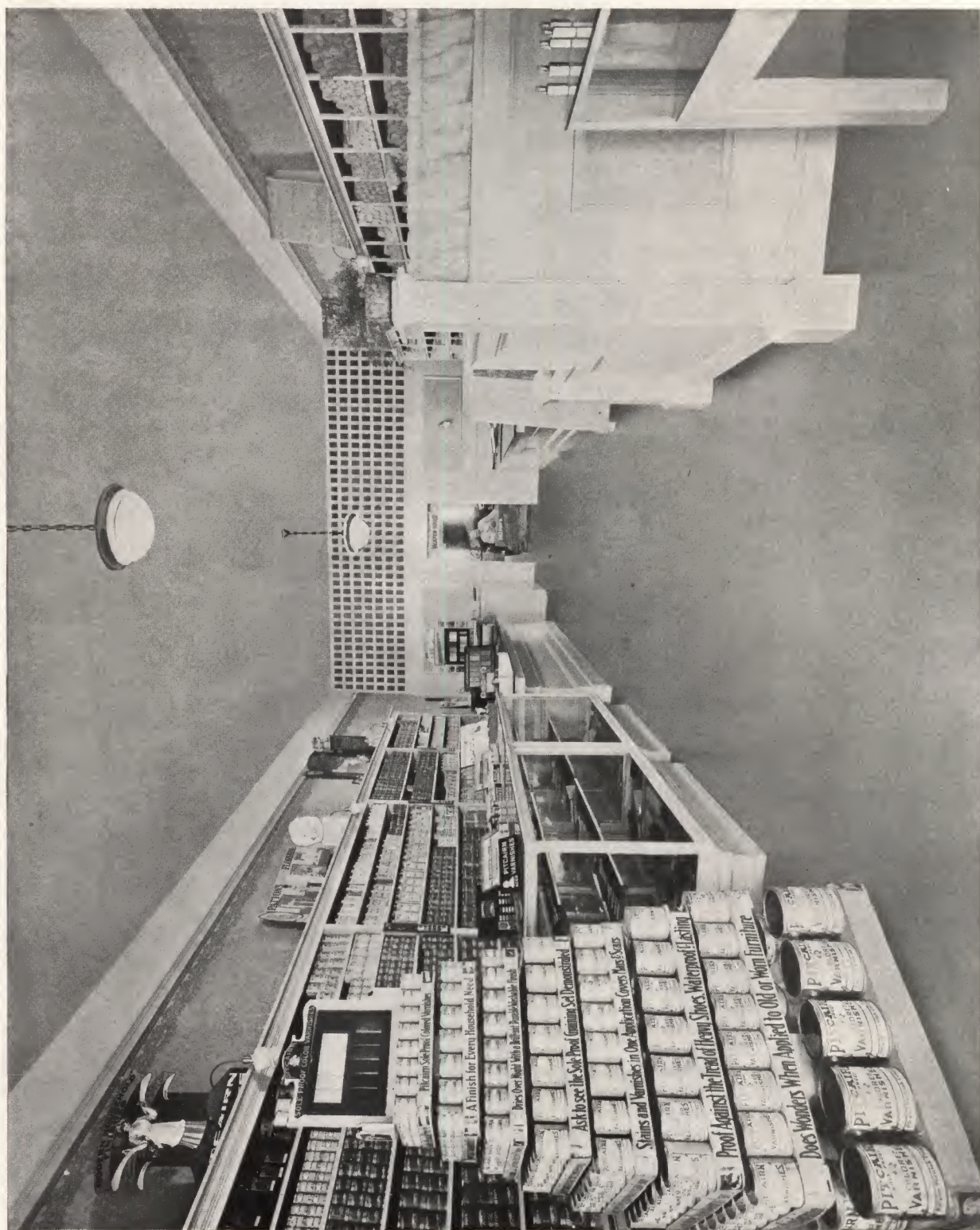
Tector is an excellent material to use in connection with first-coat work or the priming coat on houses from the standpoint of both economy and durability. We recommend for this work that it be mixed with the paint twenty-five to thirty-three and a third per cent. It is used in this manner by many exacting Master Painters. Tector penetrates and fills the wood, producing a firm and lasting foundation for Paint or Varnish coats. Tector is unexcelled as a cypress sealer, whether used clear, under paint or varnish, or in combination with the first coat of paint.

Because of its toughness and elasticity, Tector makes an ideal coat to apply over so-called "chronic peelers." Brittle paint surfaces, that have a tendency to peel no matter what is applied over them, frequently have been put in shape through the use of Tector and no further trouble has been experienced.

Because of its elasticity and toughness, Tector is an ideal material to apply to canvas surfaces which are later to be painted, as, for example, boat decks. It effectively stops all suction, is waterproof, and keeps the surface elastic and pliable.

Since the priming coat is the weakest link, why not build for permanence by starting with the right foundation? It is wrong to apply a high-grade Enamel or Finishing Varnish over cheap, brittle, lifeless undercoaters. The use of Tector insures the right foundation.

Sizes—Barrels; five-gallon, gallon, half-gallon, quart, and pint cans.



A Model Paint Store, Showing Display of Pitcairn Products

THE PITCAIRN PROPOSITION FOR DEALERS

THE merchandising plan for the Pitcairn Products begins its effective work as soon as the Varnishes are in the dealer's stock.

All the resources of our great organization—scientific research, modern methods in manufacture, thorough testing, as well as our selling and advertising activities—are marshaled and directed to keep Pitcairn Products moving from the dealer's shelves to satisfied users.

Pitcairn Products are manufactured in three splendid, modernly equipped plants, one located at Newark, New Jersey, one at Milwaukee, Wisconsin, and the other at Portland, Oregon.

The dealer who sells Pitcairn Aged Varnishes is, in reality, the representative of a highly-skilled, well-trained organization of specialists. The requirements for quality in all raw materials are most exacting and resolutely enforced, each of the manufacturing processes is carefully watched and guarded, and the finished product is subjected to rigid tests. Thus are Pitcairn Aged Varnishes produced. With every element of uncertainty eliminated, the dealer recommends Pitcairn Aged Varnishes to his customers with the well-grounded assurance that the Varnishes are of the very highest character, and with the certainty of absolute uniformity and dependability.

Small but well-assorted stocks—more sales and greater profits through frequent turnover—are characteristic of the Pitcairn Dealers. Supplies are quickly obtained from the nearest of our many distributing Warehouses. These distributing Warehouses are located in principal jobbing centers throughout the country, and extend to the dealer's own locality all advantages of factory stock and service. The Pitcairn Dealer's investment is reduced, the long, expensive delays incident to shipments made from great distances are eliminated, and freight costs are minimized.

Representatives of our Sales Department are always on the alert to be of service to Pitcairn Dealers. They effectively co-operate with our

dealers in applying our merchandising plans for increasing dealers' sales. By means of the contact thus maintained, our manufacturing and distributing proceed in accordance with the requirements of the trade.

Absolute control of production, including the supply of many of the raw materials, through the operation of our own factories, and of marketing through the Company's distributing Warehouses, assures the dealer of constant and permanent supply.

Pitcairn Aged Varnishes have been kept constantly before the favorable notice of the buying public by consistent and effective advertising. Our advertising is designed to facilitate the sale of Pitcairn Aged Varnishes through dealers, who are equipped with numerous attractive store-display features, color cards, price lists, booklets, descriptive literature, and other Dealers' Helps. Pitcairn Dealers are supported also by a great National Advertising Campaign which is making household words of the names of the principal Pitcairn Products.

This campaign includes advertising in magazines of national circulation, and reaches millions of readers. It has created and is maintaining in every locality a consumer demand to be supplied by Pitcairn Dealers. Ready acceptance by the consumer of the nationally advertised Pitcairn Aged Varnishes contributes substantially to the increased sales and greater profits of the Pitcairn Dealer.

The Pitcairn Aged Varnish Line is compact and complete. It includes no duplicates or unnecessary items. It supplies all requirements of the trade for Architectural Varnishes, Driers and Japans, Enamels, Colored Varnishes, Wood Stains, Auto Varnishes, Japan Colors, and such specialties as Bronzing Liquids, Sizing Liquids, Mixed Bronzes, Spirit Lacquer, and Leptyne. Each line and item is representative of Pitcairn Quality and especially prepared to produce the particular kind of finish or effect for which it is designed.

PITTSBURGH PLATE GLASS COMPANY



DRESS ten men in uniform and march them down the street and you will have everybody asking questions—because ten men dressed alike are conspicuous. They have the mass formation that catches the eye and commands attention.

You get the same result from a stock of Proof Paint Products. Every can wears a similar uniform. The same general design gives every product a family resemblance. Of course, each product has an individuality of its own, but, in general design, every label resembles the label on every other Proof Paint Product.

Universal Labels make a dealer's paint stock look distinctive, attractive, unusual. They give the entire line the appearance of being systematically selected and actually complete in all details.

PROOF PRODUCTS

THUS the confidence of customers is won. By this means they are impressed with the fact that the Proof Paint Products dealer is handling paints as one of the main items of his stock. One has only to glance at the labels reproduced on this page to picture to himself the mass-formation effectiveness, the individuality, and the distinctiveness they impart to a paint stock.

Remember this—that every time a dealer sells one Proof Paint Product he familiarizes the customer with the general package design of every other product. Thus he teaches his customers that, represented in the Proof Products line, there is a paint for every purpose.

Universal Labels, like the men in uniform, command attention and win prestige for the dealer as conducting “The Store for Paint.”



PITTSBURGH PLATE GLASS COMPANY

QUANTITIES IN WHICH PAINTS AND VARNISHES ARE ORIGINALLY PACKED

PAINTS

Each size packed in a separate case

LIQUID PAINTS

6 one-gallon cans. 12 half-gallon cans. 24 quarter-gallon cans. 48 eighth-gallon cans. 48 sixteenth-gallon cans. 100 thirty-second-gallon cans.

PASTE PAINTS

100 one-pound cans. 20 five-pound cans. 8 twelve and one-half pound cans. 4 twenty-five pound cans.

PATTON'S OIL COLORS

Besides the regular Paste Paint packing, the following oil colors are packed in cases of 5 five-pound, or 25 one-pound cans each (and colors starred also in cases of 50 half-pound or 50 quarter-pound cans each):

Prussian Blue*, Ultramarine Blue*, Cobalt Blue*, English Rose Lake, English Rose Pink, American Vermilion, Tuscan Red, Turkey Red, Oriental Permanent Red (light and medium), Sun-Proof Vermilion. All shades of Bulletin Colors.

PITTSBURGH OIL COLORS

Besides the regular Paste Paint packing, the following colors are packed in cases of 5 five-pound, or 25 one-pound cans each (and Prussian Blue also in cases of 50 half-pound or 50 quarter-pound cans each):*

Prussian Blue*, English Rose Lake, English Rose Pink, American Vermilion, Tuscan Red, Turkey Red.

PASTE FILLER

Besides the regular Paste Paint packing, the following are packed 5 five-pound and 25 one-pound cans to the case:

Golden Oak (light and medium), Mahogany.

DISTEMPER COLORS

50 one-pound jars per case.

CRACK PACK

48 one-pound cans. 12 five-pound cans.

17th CENTURY FLOOR WAX

60 one-pound cans. 30 two-pound cans. 12 five-pound cans.

SUN-BRIGHT FURNITURE POLISH

6-ounce bottles—2 cartons, 12 bottles each, per case.

10-ounce bottles—2 cartons, 12 bottles each, per case.

VARNISHES

Each size packed in a separate case

PITCAIRN AGED SPAR LINE

1 five-gallon can per half-case. 12 one-gallon cans. 12 half-gallon cans. 24 quarter-gallon cans. 48 eighth-gallon cans.

PITCAIRN PAINT AND VARNISH REMOVER AND EMPIRE LINE

1 five-gallon can per half-case. 12 one-gallon cans. 12 half-gallon cans. 24 quarter-gallon cans. 48 eighth-gallon cans. 48 sixteenth-gallon cans.

PITCAIRN WOOD STAIN

6 one-gallon cans. 12 half-gallon cans. 24 quarter-gallon cans. 48 eighth-gallon cans. 48 sixteenth-gallon cans.

PITCAIRN AGED AUTO AND CARRIAGE VARNISH

1 five-gallon can per half-case. 6 one-gallon cans. 12 half-gallon cans. 24 quarter-gallon cans. 48 eighth-gallon cans.

TECTOR

12 one-gallon cans. 12 half-gallon cans. 24 quarter-gallon cans. 48 eighth-gallon cans.

PITCAIRN WATERSPAR COLORED VARNISH AND ENAMEL

6 one-gallon cans. 12 half-gallon cans. 24 quarter-gallon cans. 48 eighth-gallon cans. 48 sixteenth-gallon cans. 100 thirty-second-gallon cans.

No. 1 and No. 2 Gold and Aluminum, 144 to a case. 12 cartons, 12 cans each per case.

No. 3 and No. 4 Gold and Aluminum, 48 to a case. Waterspar Grainers, 6 dozen to a case.

*Transparent Waterspar packed same as Spar Line.

BANZAI ENAMEL

12 one-gallon cans. 12 half-gallon cans. 24 quarter-gallon cans. 48 eighth-gallon cans. 48 sixteenth-gallon cans.

BANZAI DOUBLE-COVER UNDERCOATER

6 one-gallon cans. 12 half-gallon cans. 24 quarter-gallon cans. 48 eighth-gallon cans. 48 sixteenth-gallon cans.

SPECIFICATIONS FOR USE OF PROOF PRODUCTS

Prepared for the Use of Architects and Decorators

IN THE following pages will be found complete and detailed specifications for the use of PROOF PRODUCTS. These specifications are as complete as it is possible to make them and here will be found exact information on how to use any Paint or Varnish product described in the preceding pages of this book.

Specifications shown cover the use of Paints and Varnishes for new and old work on surfaces of all kinds, exterior and interior; on woods of all kinds; tin, steel, iron, and galvanized iron; stucco, plaster, cement, brick, and wallboard.

HOW TO USE THESE SPECIFICATIONS

These specifications can be used word for word, making this section of this book a valuable aid to the Specification Department.

A reference to the Index will disclose the Specification number referring to the particular kind of finish desired, as, for example: "Oak wood, Mission effect, four-coat work (41), 86." The number in parenthesis in the Index is the Specification number; the second number is the page. A reference to *Specification No. 41*, on page 86, will give complete information as to how to obtain the Mission effect on Oak, and all that will be necessary is to have the stenographer copy *Specification No. 41*.

The Paint and Varnish Division of the Pittsburgh Plate Glass Company is prepared to furnish panels showing results obtained by following the various specifications given, and will gladly send them to any architect on request, either direct or through a Pittsburgh Plate Glass Company salesman.

Our Paint and Varnish Advisory Board, if called into consultation, will be very glad to assist any architect in the solving of any peculiar and unusual problems that may arise.

The Paint and Varnish Division of the Pittsburgh Plate Glass Company is most desirous to co-operate with all architects and decorators, to insure quality work through the use of its products. Close attention to the detailed specifications will insure the best possible results from the use of Proof Paint and Varnish Products.

PITTSBURGH PLATE GLASS COMPANY

SPECIFICATIONS

Specification No. 1—General:

(a) Unless otherwise specified, the contractor or painter shall furnish all materials, provide labor, transportation, scaffolding, and all other essential equipment, and shall assume all liability of every character whatsoever in connection with the work.

(b) Care shall be taken that surface to be finished is thoroughly dry before applying any coating whatever.

(c) No ochre shall be used for priming.

(d) All finger marks, dirt, grease, or other objectionable matter shall be carefully removed by the painter before commencing to fill, varnish, or paint.

(e) The work shall be carried on continuously except for delays due to unfavorable weather and the time allowed for proper drying between coats.

(f) In painting new work all knots and sappy places shall be coated with shellac before priming, care being taken to cover completely without spreading over more of the surrounding surface than is necessary.

(g) In painting new work, all cracks and nail holes shall be filled with putty after the priming coat.

(h) On a varnish job, putty shall match the wood after the coat of filler is applied.

(i) On plaster work, all cracks which can be filled with putty shall be filled with soft putty made of equal parts plaster of Paris and flour before applying priming coat. A putty which will give excellent results can be made from *Patton's Velumina* stiffened with whiting. Edges of cracks shall be sealed with a good varnish to prevent absorption of oil by plaster. When too large for puttying, they shall be carefully plastered. No painting shall be done until plaster is thoroughly dry.

(j) No painting or varnishing of outside work will be allowed in wet or freezing weather, nor of inside work except where the building can be properly heated to at least 65 degrees Fahrenheit.

(k) On old paint the surface shall be first brushed with a wire brush and where it is scaling badly shall be scraped or burned off.

(l) All paint is to be well brushed out, and all paint, enamel, varnish, stain, and filler to be applied in a workmanlike manner, and as furnished by the manufacturer, without any thinning or addition whatever, except as noted on direction label. Care shall be taken to keep paint properly stirred.

(m) All materials shall be brought on the job in manufacturer's original package. Paints and enamel shall be thoroughly stirred before, and kept at a uniform consistency during application.

PAINTING EXTERIOR WOODWORK

Specification No. 2:

(a) All exterior woodwork (except as otherwise specified) shall be painted with three coats of

Patton's Sun-Proof Paint, color selected by the architect, as follows:

(b) Priming coat shall be *Patton's Sun-Proof Paint*, same color as final coat, reduced with three pints of pure raw linseed oil and one pint turpentine to each gallon of paint. On cypress, cedar, and redwood use priming mixture of one gallon *Patton's Porchite*, one quart *Pitcairn Tector*, and one pint turpentine.

(c) Second coat shall be *Patton's Sun-Proof Paint*, same color as final coat, reduced with one pint *Leptyne* or turpentine to each gallon of paint.

(d) Third coat shall be *Patton's Sun-Proof Paint* of the color selected by the architect, and used as furnished by the manufacturer without any thinning or addition whatever.

REPAINTING

Specification No. 3:

(a) On old paint the surface shall be first brushed with a wire brush and where it is scaling badly shall be scraped or burned off.

(b) All exterior woodwork shall receive two coats of *Patton's Sun-Proof Paint* as follows:

(c) First coat shall be *Patton's Sun-Proof Paint* of the color selected, reduced with one quart of pure raw linseed oil and one pint of *Leptyne* or turpentine to each gallon.

(d) Second coat shall be *Patton's Sun-Proof Paint* as it comes in the can.

PAINTING PORCH FLOORS AND DECKS

Specification No. 4:

(a) All porch floors shall be painted with three coats of *Patton's Porchite*, the color to be selected by the architect, as follows:

(b) Priming coat shall be *Patton's Porchite*, same color as final coat, reduced with three pints of pure raw linseed oil, one pint turpentine, and one pint of *Compo Drier* to each gallon of paint. On cypress, yellow pine, and fir use priming mixture of one gallon *Patton's Porchite*, one quart *Pitcairn Tector*, and one pint turpentine.

(c) Second coat shall be *Patton's Porchite* of the same color as final coat, reduced with one pint of *Leptyne* or turpentine to each gallon of paint.

(d) Third coat shall be *Patton's Porchite* of the same color selected by the architect, and used as furnished by the manufacturer.

REPAINTING

Specification No. 5:

(a) See *Specification No. 1 (k)*.

(b) All porch floors shall be painted with two coats of *Patton's Porchite*, as follows:

(c) First coat shall be *Patton's Porchite* of the color selected, reduced with one quart of raw linseed oil, one pint of *Leptyne* or turpentine, and one pint of *Compo Drier* to each gallon.

PROOF PRODUCTS SPECIFICATIONS

(d) Second coat shall be *Patton's Porchite* as it comes in the can.

PAINTING ROOFS SHINGLE ROOFS

Specification No. 6:

(a) All shingles shall be dipped full length in *Patton's Tor-on Shingle Stain* of the color selected by the architect, before being laid.

(b) After laying, follow with a brush or spray coat of *Patton's Tor-on Shingle Stain*. The addition of one quart of boiled linseed oil to each gallon of Stain is recommended.

REPAINTING

Specification No. 7:

(a) Apply two brush or spray coats of *Patton's Tor-on Shingle Stain* of color selected by the architect. The addition of one quart of boiled linseed oil to each gallon of Stain is recommended.

TIN ROOFS, LEADERS, GUTTERS

Specification No. 8:

(a) Wash with benzine to remove dirt and grease, then finish according to the following:

(b) First coat shall be *Pitcairn Tector* reduced with one quart of *Leptyne* or turpentine per gallon.

(c) Second coat shall be *Patton's Inhibitive Red Ironhide* as it comes in the can. At least forty-eight hours must be allowed for drying.

(d) Third coat shall be *Patton's Ironhide Finishing Green* or *Brown* applied as it comes in the can.

REPAINTING

Specification No. 9:

(a) All rust and loose paint must be removed by wire-brushing or scraping. All bare spots are to be touched up with *Patton's Inhibitive Red Ironhide*, and after three days the entire surface coated with *Patton's Finishing Green* or *Brown Ironhide*.

NOTE: If a red color is desired, apply two coats of *Patton's Red Ironhide*.

PAINTING IRON AND STEEL

Specification No. 10:

(a) The surface to be painted must be free from oil, grease, scale, and rust. Rust and scale must be removed by wire-brushing, scraping, or sandblast; grease, by use of gasoline or benzine.

(b) All paint must be well brushed and nothing larger than a three-inch oval brush used in applying.

(c) No paint is to be applied at a temperature below 50 degrees Fahrenheit, in damp or rainy weather, or to a damp or wet surface.

(d) The first coat shall be *Patton's Inhibitive Red Ironhide* as it comes in the container. Allow at least three days for drying.

(e) The second coat shall be *Patton's Brown Ironhide* or a mixture of equal parts of *Inhibitive Red* and *Finishing Black Ironhide*.

(f) The third coat shall be *Patton's Finishing Black* or *Green Ironhide* as it comes in container.

REPAINTING

Specification No. 11:

(a) All rust and loose paint must be removed by wire-brushing or scraping, then finished as follows:

(b) First coat shall be *Patton's Inhibitive Red Ironhide* as it comes in the can. At least forty-eight hours must be allowed for proper drying.

(c) Second coat shall be *Patton's Finishing Black Ironhide* as it comes in the can.

GALVANIZED IRON

Specification No. 12:

(a) Wash all new galvanized iron, interior and exterior, and metal ceilings, with a solution of five ounces of blue vitriol in one gallon of water. If it has been allowed to weather, washing will be unnecessary.

(b) Apply one coat of a mixture of four parts of *Tector* and one part of *Leptyne*, turpentine, or benzine. Allow eighteen hours for drying.

(c) Second coat shall be *Patton's Inhibitive Red Ironhide* as it comes in the can.

REPAINTING

Specification No. 13:

(Same as *Specification No. 11.*)

PAINTING STUCCO, BRICK, CEMENT, AND CONCRETE

EXTERIOR OR INTERIOR

FLAT FINISH

Specification No. 14:

(a) Surface to be painted must be clean and dry. All dirt and loose particles must be removed with a wire brush or stiff broom.

(b) First coat shall be *Cementhide Priming Liquid* as it comes in the can. When a dark surface is to be repainted, add one-quarter gallon of *Cementhide* of desired shade to each gallon of *Cementhide Priming Liquid*.

(c) Second coat shall be a mixture in the proportion of one gallon of *Cementhide* to one quart of *Cementhide Priming Liquid*.

(d) Third coat shall be *Cementhide* as it comes in the can. If too heavy for easy brushing, reduce with *Leptyne* or turpentine not to exceed one pint to each gallon of paint.

(e) Allow forty-eight hours' drying between coats.

REPAINTING

Specification No. 15:

(a) Surface to be painted must be clean and dry. All dirt and loose particles must be removed with a wire brush or stiff broom.

(b) First coat shall be a mixture in the proportion of one gallon of *Cementhide* to one-half gallon of *Cementhide Priming Liquid*.

(c) Second coat shall be *Cementhide* as it comes in the can. If too heavy for easy brushing, reduce with *Leptyne* or turpentine, not to exceed one pint to each gallon of paint.

(d) Allow forty-eight hours' drying between coats.

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INTERIOR BRICK AND CEMENT FLOORS—GLOSS FINISH

Specification No. 16:

- (a) First coat shall be one of *Cementhide Priming Liquid* as it comes in the can.
- (b) Second and third coats shall be *Patton's Florhide Enamel* as it comes in the can. If too heavy for easy brushing, reduce with *Leptyne* or turpentine not to exceed one pint to each gallon of *Florhide Enamel*.

REPAINTING

Specification No. 17:

- (a) First coat shall be *Patton's Florhide Enamel*. If too heavy for easy brushing, reduce with *Leptyne* or turpentine not to exceed one pint to each gallon.
- (b) Second coat shall be *Patton's Florhide Enamel* as it comes in the can.

EXTERIOR STUCCO, BRICK, CEMENT, AND CONCRETE WALLS—GLOSS FINISH

Specification No. 18:

- (a) First coat shall be *Patton's Cementhide Priming Liquid* as it comes in the can.
- (b) Second coat shall be *Patton's Sun-Proof Paint* reduced with a quart of *Cementhide Priming Liquid* to each gallon.
- (c) Third coat shall be *Patton's Sun-Proof Paint* as it comes in the can.

REPAINTING

Specification No. 19:

- (a) First coat shall be a mixture of equal parts of *Cementhide Priming Liquid* and *Patton's Sun-Proof Liquid Paint*.
- (b) Second coat shall be *Patton's Sun-Proof Paint* as it comes in the can.

EXTERIOR BRICK WALLS

Alternate for Specification No. 18

Specification No. 20:

- (a) All exterior brick walls shall be painted with three coats of *Patton's Sun-Proof Paint*, color selected by the architect, as follows:
- (b) Priming coat shall be *Patton's Sun-Proof Paint*, same color as final coat, reduced with three pints of pure raw linseed oil and one pint of *Leptyne* or turpentine to each gallon of paint.
- (c) Second coat shall be *Patton's Sun-Proof Paint*, same color as final coat, reduced with one quart of linseed oil and one pint of *Leptyne* or turpentine to each gallon of paint.
- (d) Third coat shall be *Patton's Sun-Proof Paint* as it comes in the can.

REPAINTING

Alternate for Specification No. 19

Specification No. 21:

- (a) The first coat shall be *Patton's Sun-Proof Paint* reduced with one quart of raw linseed oil and one pint of *Leptyne* or turpentine to a gallon.
- (b) Second coat shall be *Patton's Sun-Proof Paint* as it comes in the can.

EXTERIOR WOOD FINISHES OAK AND ASH WOODS

Specification No. 22:

VARNISH FINISH—FIVE-COAT WORK

- (a) All Oak and Ash Woods (locations designated) shall receive a coat of *Patton's Natural Paste Wood Filler*, properly reduced with *Leptyne*, turpentine, or benzine, brushed well into the grain. (The excess of Filler must be carefully and neatly cleaned from the surface by rubbing across the grain.)
- (b) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. Fill all nail holes with putty tinted to match finish.
- (c) The surface shall then receive a coat of *Pitcairn Tector* reduced gallon for gallon with *Leptyne* or turpentine. After twenty-four hours, sand carefully.
- (d) Apply three coats of *Pitcairn Aged Mast Spar Varnish*, allowing at least forty-eight hours between coats for drying. Sand lightly between Varnish coats with No. 0 paper.
- (e) To obtain a high-polished finish—rub the last coat of Varnish with pumice stone and water, then bring to a high polish with rotten stone and water or crude oil, and wipe off absolutely clean.

BIRCH, PINE, CYPRESS, AND FIR WOODS

Specification No. 23:

VARNISH FINISH—FOUR-COAT WORK

- (a) All Birch, Pine, Cypress, and Fir Woods (locations designated) shall receive a coat of *Pitcairn Tector* reduced according to directions on the can with *Leptyne*, turpentine, or benzine. After twenty-four hours, sandpaper carefully. Fill all nail holes with putty tinted to match the finish.
- (b) Apply three coats of *Pitcairn Aged Mast Spar Varnish*, allowing at least forty-eight hours between coats for drying. Sand lightly between Varnish coats with No. 0 paper.

PAINTING INTERIOR WOODWORK GLOSS FINISH

Specification No. 24:

- (a) All interior woodwork shall be painted with three coats of *Patton's Sun-Proof Paint*, as follows:
- (b) The first coat shall be *Patton's Sun-Proof Paint* reduced with three pints of raw linseed oil and one pint of *Leptyne* or turpentine to each gallon.
- (c) The second coat shall be *Patton's Sun-Proof Paint* reduced with one pint of *Leptyne* or turpentine to each gallon.
- (d) The third coat shall be *Patton's Sun-Proof Paint* as it comes in the can.

REPAINTING

Specification No. 25:

- (a) First coat shall be *Patton's Sun-Proof Paint* reduced with one quart of linseed oil and one pint of *Leptyne* or turpentine to each gallon of paint.

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(b) Second coat shall be *Patton's Sun-Proof Paint* as it comes in the can.

FLAT FINISH

Specification No. 26:

(a) All interior woodwork shall be painted with three coats of *Patton's Velumina*, color to be selected by the architect, as follows:

(b) The first coat shall be *Patton's Velumina*, same color as final coat, reduced with one quart of raw linseed oil to each gallon of paint.

(c) Second and third coats shall be *Patton's Velumina* as it comes in the can.

REPAINTING

Specification No. 27:

(a) First coat shall be *Patton's Velumina* reduced with one quart of raw linseed oil to each gallon.

(b) Second coat shall be *Patton's Velumina* as it comes in the can.

NOTE: In many cases one coat of *Patton's Velumina* applied as specified in *Specification No. 27 (a)* will prove sufficient.

WHITE ENAMEL FINISH

(See special Enamel specifications, page 95.)

COMMERCIAL, OR MILL WHITE INTERIOR FLAT FINISH

OLD OR NEW WORK—WOOD, PLASTER, BRICK, OR CEMENT

Specification No. 28:

(a) The first coat shall be *Patton's Flat Alba-Lux* reduced with a quart of boiled linseed oil to each gallon. Twenty-four hours are to be allowed for drying.

(b) The second coat shall be *Patton's Flat Alba-Lux* as it comes in the package.

REPAINTING WHITE SURFACE

Specification No. 29:

(a) One coat of *Patton's Flat Alba-Lux* as it comes in the can.

NOTE: If surface is in poor condition, use *Specification No. 28 (a)* and *(b)*.

GLOSS FINISH

Specification No. 30:

(a) The first coat shall be *Patton's Flat Alba-Lux* reduced with one quart of boiled linseed oil; forty-eight hours to be allowed for drying.

(b) The second coat shall be *Patton's Alba-Lux Gloss* as it comes in the can.

REPAINTING WHITE SURFACE

Specification No. 31:

(a) One coat of *Patton's Alba-Lux Gloss* as it comes in the package.

NOTE: If surface is in poor condition use *Specification No. 30 (a)* and *(b)*.

WALLS—NEW OR OLD WORK

PLASTER—FLAT EFFECT

Specification No. 32:

(a) Preparation of surface: Wash or scrape off all calcimine, loose paint, dirt, grease, etc. Smooth or glossy paint shall be roughened with steel wool or sandpaper. Fill cracks with a stiff paste made from plaster of Paris and flour and allow at least twenty-four hours for drying. Edges of cracks shall be sealed with a good varnish.

(b) The first coat shall consist of *Patton's Velumina* reduced with one-quarter gallon of pure boiled linseed oil except for new and exceedingly porous walls, in which case more satisfactory results will be obtained by using a mixture of one gallon of *Patton's Velumina*, one quart of boiled linseed oil, and one quart *Pitcairn Tector*. Mix only as used, as mixture may thicken on prolonged standing. It is absolutely necessary that boiled oil be used with *Tector* as above directed to insure results. Do not use any *Leptyne*, turpentine, or benzine in first coat under any circumstances, unless to thin mixture of boiled oil and *Tector* slightly. Allow at least twenty-four hours for drying, more time being required in cold or damp weather.

(c) Suction or so-called "hot-spots," which may show up through first coat, shall, when dry, be touched up with first-coat mixture, allowing at least twenty-four hours for drying. Otherwise, these suction spots may appear through the following coat.

(d) To insure perfect results, never apply the finishing coat until first coat presents a uniform surface. Extremely bad walls may require an additional application of the first-coat mixture to accomplish this, or, if preferred, a thin coat of glue size may be applied over the first coat. The use of glue is something that should be attempted only by one thoroughly experienced, as, if too heavy, it is likely to cause peeling later. In general, it is well to avoid the use of glue size wherever possible. Never apply glue or varnish size direct to plaster as it will prevent proper penetration of the paint.

(e) The finishing coat shall be *Patton's Velumina* as it comes in the can. Do not use any of the material left over from the first coat in the finishing coat as it will impair the perfect flatness of *Velumina*. *Velumina* is made heavy in body, but brushes easily and should be flowed on with a wide wall brush. If too heavy, add *Leptyne* or turpentine, not to exceed one-eighth gallon to each gallon of *Velumina*. Never add thinners, however, until a brushing test shows it is necessary; then add very sparingly. After the finishing coat has set for about thirty minutes, it may be stippled if such finish is desired.

NOTE: *Velumina* should be flowed on like a high-grade enamel and not brushed out like a paint.

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WALLBOARD—FLAT EFFECT

Specification No. 33:

See Specification No. 32. (Same as for Plaster Walls.)

METAL CEILINGS—FLAT EFFECT

Specification No. 34:

(a) The first coat shall consist of a mixture of four parts of *Tector* and one part of *Leptyne*, turpentine, or benzine. Allow eighteen hours for drying.

(b) The second coat shall be *Patton's Velumina* reduced with one quart of boiled linseed oil to each gallon used.

(c) The third coat shall be *Patton's Velumina* as it comes in the can.

REPAINTING

Specification No. 35:

(a) The first coat shall be *Patton's Velumina* reduced with a quart of boiled linseed oil to each gallon used.

(b) The second coat shall be *Patton's Velumina* as it comes in the can.

PAINTING INTERIOR WOOD FLOORS

Specification No. 36:

(a) Floor shall be painted with three coats of *Patton's Florhide Enamel*, color to be selected by the architect, as follows:

(b) First coat shall be *Patton's Florhide Enamel* reduced with one quart of *Leptyne* or turpentine to each gallon of paint.

(c) Second and third coats shall be *Patton's Florhide Enamel* used as it comes in the can; twenty-four hours' drying time must be allowed between coats.

REPAINTING

Specification No. 37:

(a) First coat shall be *Patton's Florhide Enamel* reduced with one quart of *Leptyne* or turpentine to each gallon of paint.

(b) Second coat shall be *Patton's Florhide Enamel* as it comes in the can.

PAINTING INTERIOR BRICKWORK, PLASTER GLOSS FINISH

Specification No. 38:

(a) The first coat shall be *Patton's Sun-Proof Paint* reduced with one quart of *Cementhide Priming Liquid* to each gallon of paint.

(b) The second coat shall be *Patton's Sun-Proof Paint* as it comes in the can.

REPAINTING

Specification No. 39:

(a) The first coat shall be *Patton's Sun-Proof Paint* reduced with a quart of *Cementhide Priming Liquid* to each gallon of paint.

(b) The second coat shall be *Patton's Sun-Proof Paint* as it comes in the can.

NATURAL WOOD FINISHES

OAK AND ASH

Specification No. 40:

VARNISH FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Oak or Ash Wood (locations designated) shall receive a coat of *Patton's Natural Paste Wood Filler*, properly reduced with *Leptyne*, turpentine, or benzine, and brushed well into the grain. (Excess of Filler must be carefully and neatly cleaned from the surface by rubbing across the grain.)

(b) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. Fill all nail holes with putty tinted to match the wood.

(c) The surface then shall receive a coat of *Pitcairn Tector*, reduced with *Leptyne* or turpentine, one-half gallon to the gallon. After twenty-four hours, sandpaper carefully. Then apply two coats of *Pitcairn Aged Finishing Spar Varnish*, allowing at least forty-eight hours between coats for drying. Sand lightly between varnish coats with No. 0 paper.

(d) For an extra-fine job, apply a third coat of *Pitcairn Aged Finishing Spar Varnish*.

(e) For dull finish—rub the last coat with fine pumice stone and rubbing oil.

(f) For a dull finish without the expense of rubbing, substitute *Pitcairn Aged Flat Finish* for the last Varnish coat.

(g) Apply Flat Varnish freely with a badger-hair or black fitch flowing brush.

Specification No. 41:

MISSION EFFECT—FOUR-COAT WORK STANDING TRIM

(a) All Oak or Ash Wood (locations designated) shall receive a coat of *Patton's Natural Paste Wood Filler*, properly reduced with *Leptyne*, turpentine, or benzine, and brushed well into the grain. (Excess of Filler must be carefully and neatly cleaned from the surface by rubbing across the grain.)

(b) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. Fill all nail holes with putty tinted to match the wood.

(c) The surface shall then receive a coat of *Pitcairn Tector*, reduced with *Leptyne* or turpentine, one-half gallon to the gallon. After twenty-four hours, sandpaper carefully. Apply two coats of *Pitcairn Aged Flat Finish*, flowed on with a badger-hair or black fitch flowing brush to insure a smooth dull finish. Allow at least twenty-four hours between coats for drying.

Specification No. 42:

WAX FINISH—THREE-COAT WORK STANDING TRIM

(a) All Oak or Ash Wood (locations designated) shall receive a coat of *Patton's Natural Paste Wood Filler*, properly reduced with *Leptyne*, turpentine, or benzine, and brushed well into the grain. (Ex-

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cess of Filler must be carefully and neatly cleaned from the surface by rubbing across the grain.)

(b) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. Fill all nail holes with putty tinted to match wood.

(c) Apply a coat of *Pitcairn Tector* reduced with *Leptyne* or turpentine, one-half gallon to the gallon. After twenty-four hours, sandpaper carefully and apply *Patton's Seventeenth Century Wax*, and polish by hand-rubbing.

(d) For an extra-fine job, after allowing a few hours' drying, apply second coat of *Wax* and again polish.

BIRCH AND MAPLE

Specification No. 43:

VARNISH FINISH—THREE-COAT WORK STANDING TRIM

(a) All Birch or Maple Wood (locations designated) shall receive a coat of *Pitcairn Tector* reduced with *Leptyne* or turpentine, gallon for gallon. After twenty-four hours, sandpaper carefully. Fill all nail holes with putty tinted to match the wood.

(b) Apply two coats of *Pitcairn Aged Finishing Spar Varnish*, allowing at least forty-eight hours' drying between coats. Sand lightly between coats.

(c) If an extra-fine job is desired, apply a third coat of *Pitcairn Aged Finishing Spar Varnish*.

(d) If dull rubbed finish is desired, rub the last Varnish coat.

(e) If a dull finish is desired without the expense of rubbing, substitute *Pitcairn Aged Flat Finish* for the last Varnish coat. Apply Flat Varnish freely with a badger-hair or black fitch flowing brush.

Specification No. 44:

MISSION EFFECT—THREE-COAT WORK STANDING TRIM

(a) All Birch or Maple Wood (locations designated) shall receive a coat of *Pitcairn Tector* reduced with *Leptyne* or turpentine, gallon for gallon. After twenty-four hours, sandpaper carefully. Fill all nail holes with putty tinted to match the wood.

(b) Apply two coats of *Pitcairn Aged Flat Finish*, flowed on with a badger-hair or black fitch flowing brush to insure a smooth dull finish.

(c) Allow at least twenty-four hours between coats for drying.

Specification No. 45:

WAX FINISH—TWO-COAT WORK STANDING TRIM

(a) All Birch or Maple Wood (locations designated) shall receive a coat of *Pitcairn Tector* reduced with *Leptyne* or turpentine, gallon for gallon. After twenty-four hours, sandpaper carefully. Fill all nail holes with putty tinted to match wood.

(b) Let stand for eight hours; apply *Patton's Seventeenth Century Wax*; polish by hand-rubbing.

(c) If an extra-fine job is desired, allow a few hours for first coat to dry; apply a second coat of *Wax*, and again polish.

GUM, PINE, FIR, AND REDWOOD

Specification No. 46:

VARNISH FINISH—THREE-COAT WORK STANDING TRIM

(a) All Gumwood, Pine, Fir, or Redwood (locations designated) shall receive a coat of *Pitcairn Tector* reduced with *Leptyne* or turpentine, one-half gallon to the gallon. After twenty-four hours, sandpaper carefully. Fill all nail holes with putty tinted to match the wood.

(b) Apply two coats of *Pitcairn Aged Finishing Spar Varnish*, allowing at least forty-eight hours' drying between coats. Sand lightly between coats.

(c) If an extra-fine job is desired, apply a third coat of *Pitcairn Aged Finishing Spar Varnish*. If desired, the last coat may be rubbed to a dull finish with fine pumice stone and rubbing oil.

(d) If a dull finish is desired without the expense of rubbing, substitute *Pitcairn Aged Flat Finish* for the last Varnish coat. Apply Flat Varnish freely with a badger-hair or black fitch flowing brush.

Specification No. 47:

MISSION EFFECT—THREE-COAT WORK STANDING TRIM

(a) All Gumwood, Pine, Fir, or Redwood (locations designated) shall receive a coat of *Pitcairn Tector* reduced with *Leptyne* or turpentine, one-half gallon to the gallon. After twenty-four hours, sandpaper carefully. Fill all nail holes with putty tinted to match the wood.

(b) Apply two coats of *Pitcairn Aged Flat Finish*, flowed on with a badger-hair or black fitch flowing brush to insure a smooth dull finish.

(c) Allow at least twenty-four hours between coats for drying.

Specification No. 48:

WAX FINISH—TWO-COAT WORK STANDING TRIM

(a) All Gumwood, Pine, Fir, or Redwood (locations designated) shall receive a coat of *Pitcairn Tector* reduced with *Leptyne* or turpentine, one-half gallon to the gallon. After twenty-four hours, sandpaper carefully. Fill all nail holes with putty tinted to match the wood.

(b) Apply *Patton's Seventeenth Century Wax* and polish by hand-rubbing.

(c) If an extra-fine job is desired, allow a few hours for first coat to dry; apply a second coat of *Wax*, and again polish.

GENUINE MAHOGANY

Specification No. 49:

VARNISH FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Mahogany Wood (locations designated) shall receive a coat of *Mahogany Paste Wood Filler*,

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properly reduced with *Leptyne*, turpentine, or benzine, and brushed well into the grain. (The excess of Filler must be carefully and neatly cleaned from the surface by rubbing across the grain.)

(b) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. Fill all nail holes with putty tinted to match the finish.

(c) The surface shall then receive a coat of *Pitcairn Tector* reduced with *Leptyne* or turpentine, one-half gallon to the gallon. After twenty-four hours, sand carefully.

(d) Apply two coats of *Pitcairn Aged Finishing Spar Varnish*, allowing at least forty-eight hours between coats for drying.

(e) Sand lightly between coats with No. 0 paper.

(f) If an extra-fine job is desired, apply a third coat of *Pitcairn Aged Finishing Spar Varnish*.

(g) For dull finish, rub the last coat with fine pumice stone and rubbing oil.

(h) If a dull finish is desired without the expense of rubbing, substitute *Pitcairn Aged Flat Finish* for the last Varnish coat. Apply Flat Varnish freely with a badger-hair or black fitch flowing brush.

STAINED WOOD FINISHES

NOTE: Soft, porous woods absorb stain more readily than hard, close-grained pieces. Painters will use care and judgment to get uniform effects. When necessary reduce stain with *Leptyne*, turpentine, or naphtha.

OAK WOOD—FLEMISH OR WEATHERED FINISH

Specification No. 50:

MISSION FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Oak Wood (locations designated) shall receive a coat of *Pitcairn No. 1 Flemish Stain*, or *Pitcairn No. 2 Weathered Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration. Fill all nail holes with putty tinted to match the finish.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) Apply two coats of *Pitcairn Aged Flat Finish*, flowed on with a badger-hair or black fitch flowing brush to insure a smooth dull finish. Allow at least twenty-four hours between coats for drying.

(d) Apply only enough Lacquer or shellac to seal the Stain. Avoid a heavy coating.

Specification No. 51:

WAX FINISH—THREE-COAT WORK STANDING TRIM

(a) All Oak Wood (locations designated) shall receive a coat of *Pitcairn No. 1 Flemish Stain*, or *Pitcairn No. 2 Weathered Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration. Fill all nail holes with putty tinted to match the finish.

(b) After twelve hours, a thin coat of *Pitcairn*

Spirit Lacquer or pure gum shellac shall be applied. Tint the Lacquer or shellac with a little dry lamp-black, being careful to avoid a streaky finish.

(c) Apply *Patton's Seventeenth Century Wax* and polish by hand-rubbing.

(d) If an extra-fine job is desired, allow a few hours for the first coat to dry; apply a second coat of *Wax*, and again polish.

OAK WOOD—FLEMISH OR WEATHERED FINISH WHITE SILHOUETTE EFFECT

Specification No. 52:

MISSION FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Oak Wood (locations designated) shall receive a coat of *Pitcairn No. 1 Flemish Stain*, or *Pitcairn No. 2 Weathered Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration. Fill all nail holes with putty tinted to match the finish.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) This is followed by a coat of *White Zinc Filler* properly reduced with *Leptyne*, turpentine, or benzine, and brushed well into the grain. (The excess of Filler must be carefully and neatly cleaned from the surface by rubbing across the grain.)

(d) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. All nail holes to be filled with putty tinted to match the finish.

(e) Apply one coat of *Pitcairn Aged Flat Finish*, flowed on with a badger-hair or black fitch flowing brush to insure a smooth dull finish.

Specification No. 53:

WAX FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Oak Wood (locations designated) shall receive a coat of *Pitcairn No. 1 Flemish Stain*, or *Pitcairn No. 2 Weathered Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration. Fill all nail holes with putty tinted to match the finish.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied. Tint the Lacquer or shellac with a little dry lamp-black, being careful to avoid a streaky finish.

(c) Apply one coat of *Pitcairn Aged Flat Finish*, flowed on with a badger-hair or black fitch flowing brush to insure a smooth dull finish. Allow at least twenty-four hours between coats for drying.

(d) Apply only enough Lacquer or shellac to seal the Stain. Avoid a heavy coating.

(e) Apply *Patton's Seventeenth Century Wax* and polish by hand-rubbing.

(f) If an extra-fine job is desired, allow a few hours for the first coat to dry; apply a second coat of *Wax*, and again polish.

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ALL SOFT WOODS—WEATHERED OAK EFFECT

Specification No. 54:

VARNISH FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Soft Wood (locations designated) shall receive a coat of *Pitcairn No. 2 Weathered Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration. Fill all nail holes with putty tinted to match the finish.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) Apply two coats of *Pitcairn Aged Finishing Spar Varnish*, allowing at least forty-eight hours between coats for drying. Sand lightly between Varnish coats with No. 0 paper.

(d) If an extra-fine job is desired, apply a third coat of *Pitcairn Aged Finishing Spar Varnish*.

(e) If desired, the last coat may be rubbed to a dull finish with fine pumice stone and rubbing oil.

(f) If a dull finish is desired without the expense of rubbing, substitute *Pitcairn Aged Flat Finish* for the last Varnish coat.

(g) Apply Flat Varnish freely with a badger-hair or black fitch flowing brush.

(h) Apply only enough Spirit Varnish to seal the Stain. Avoid a heavy coating.

OAK AND ASH WOODS GREENISH WEATHERED OAK EFFECT

Specification No. 55:

VARNISH FINISH—FIVE-COAT WORK STANDING TRIM

(a) All Oak or Ash Wood (locations designated) shall receive a coat of *Pitcairn No. 4 Greenish Weathered Stain*, the excess being removed with a cloth after lapse of sufficient time for penetration.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) This is followed by a coat of *Patton's Natural Paste Wood Filler*, tinted with Stain to match the finish, properly reduced with *Leptyne*, turpentine, or benzine, and brushed well into the grain. (The excess of Filler must be carefully and neatly cleaned from the surface by rubbing across the grain.)

(d) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. Fill all nail holes with putty tinted to match the finish.

(e) Apply one coat of *Pitcairn Green Glaze* and then one coat of *Pitcairn Aged Finishing Spar Varnish*, allowing at least forty-eight hours between coats for drying. Sand lightly between Varnish coats with No. 0 paper.

(f) If an extra-fine job is desired, apply a second coat of *Pitcairn Aged Finishing Spar Varnish*.

(g) If desired, the last coat may be rubbed to a dull finish with fine pumice stone and rubbing oil.

(h) If a dull finish is desired without the expense of rubbing, substitute *Pitcairn Aged Flat Finish* for the last Varnish coat.

(i) Apply Flat Varnish freely with a badger-hair or black fitch flowing brush.

(j) Apply only enough Spirit Lacquer to seal the Stain. Avoid a heavy coating.

CYPRESS, PINE, FIR, ASH, OR OAK WOOD GREENISH WEATHERED OAK EFFECT

Specification No. 56:

VARNISH FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Cypress, Pine, Fir, Ash, or Oak Wood (locations designated) shall receive a coat of *Pitcairn No. 4 Greenish Weathered Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration. Fill all nail holes with putty tinted to match the finish.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) Then apply a coat of *Pitcairn Green Glaze* and one coat of *Pitcairn Aged Finishing Spar Varnish*, allowing at least forty-eight hours between coats for drying. Sand lightly between Varnish coats with No. 0 paper.

(d) If an extra-fine job is desired apply a second coat of *Pitcairn Aged Finishing Spar Varnish*.

(e) If desired, the last coat may be rubbed to a dull finish with fine pumice stone and rubbing oil.

(f) If a dull finish is desired without the expense of rubbing, substitute *Pitcairn Aged Flat Finish* for the last Varnish coat.

(g) Apply Flat Varnish freely with a badger-hair or black fitch flowing brush.

Specification No. 57:

MISSION FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Cypress, Pine, Fir, Ash, or Oak Wood (locations designated) shall receive a coat of *Pitcairn No. 4 Greenish Weathered Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration. Fill all nail holes with putty tinted to match the finish.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) Apply one coat of *Pitcairn Green Glaze* and one coat of *Pitcairn Aged Flat Finish*, flowed on with a badger-hair or black fitch flowing brush to insure a smooth dull finish. Allow at least forty-eight hours between coats for drying.

Specification No. 58:

WAX FINISH—THREE-COAT WORK STANDING TRIM

(a) All Cypress, Pine, Fir, Ash, or Oak Wood (locations designated) shall receive a coat of *Pitcairn No. 4 Greenish Weathered Stain*, the excess

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being removed with a cloth after sufficient time has elapsed for penetration. Fill all nail holes with putty tinted to match the finish.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) Then apply *Patton's Seventeenth Century Wax* and polish by hand-rubbing.

(d) If an extra-fine job is desired, allow a few hours for the first coat to dry. Apply a second coat of *Wax* and again polish.

OAK, ASH, CYPRESS, PINE, FIR, OR REDWOOD GOLDEN OAK EFFECT

Specification No. 59:

VARNISH FINISH—FIVE-COAT WORK STANDING TRIM

(a) All Oak, Ash, Cypress, Pine, Fir, or Redwood (locations designated) shall receive a coat of *Pitcairn No. 6 Golden Oak Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) This is followed by a coat of *Patton's Natural Paste Wood Filler*, tinted with *Stain* to match the finish, properly reduced with *Leptyne*, turpentine, or benzine, and brushed well into the grain. (The excess of Filler must be carefully and neatly cleaned from the surface by rubbing across the grain.)

(d) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. Fill all nail holes with putty tinted to match the finish.

(e) Apply two coats of *Pitcairn Aged Finishing Spar Varnish*, allowing at least forty-eight hours between coats for drying. Sand lightly between Varnish coats with No. 0 paper.

(f) If an extra-fine job is desired, apply a third coat of *Pitcairn Aged Finishing Spar Varnish*.

(g) If desired, the last coat may be rubbed to a dull finish with fine pumice stone and rubbing oil.

(h) If a dull finish is desired without the expense of rubbing, substitute *Pitcairn Aged Flat Finish* for the last Varnish coat.

(i) Apply Flat Varnish freely with a badger-hair or black fitch flowing brush.

(j) For a deep, rich, coffee-brown effect, in place of first Varnish coat, apply one coat of *Pitcairn Walnut Waterspar Colored Varnish*.

Specification No. 60:

MISSION FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Oak, Ash, Cypress, Pine, Fir, or Redwood (locations designated) shall receive a coat of *Pitcairn No. 6 Golden Oak Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) Then apply two coats of *Pitcairn Aged Flat Finish*, flowed on with a badger-hair or black fitch flowing brush to insure a smooth dull finish. Allow at least twenty-four hours between coats for drying.

Specification No. 61:

WAX FINISH—THREE-COAT WORK STANDING TRIM

(a) All Oak, Ash, Cypress, Pine, Fir, or Redwood (locations designated) shall receive a coat of *Pitcairn No. 6 Golden Oak Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer*, or pure gum shellac shall be applied.

(c) Then apply *Patton's Seventeenth Century Wax*, and polish by hand-rubbing.

(d) If an extra-fine job is desired, allow a few hours for the first coat to dry. Apply a second coat of *Wax* and again polish.

Specification No. 62:

VARNISH FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Oak, Ash, Cypress, Pine, Fir, or Redwood (locations designated) shall receive a coat of *Pitcairn No. 6 Golden Oak Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) Apply two coats of *Pitcairn Aged Finishing Spar Varnish*, allowing at least forty-eight hours between coats for drying. Sand lightly between Varnish coats with No. 0 paper.

(d) If an extra-fine job is desired, apply a third coat of *Pitcairn Aged Finishing Spar Varnish*.

(e) If desired, the last coat may be rubbed to a dull finish with fine pumice stone and rubbing oil.

(f) If a dull finish is desired without the expense of rubbing, substitute *Pitcairn Aged Flat Finish* for the last Varnish coat.

(g) Apply Flat Varnish freely with a badger-hair or black fitch flowing brush.

PINE, CYPRESS, BIRCH, OAK, OR ASH WOOD SILVER GRAY EFFECT

Specification No. 63:

VARNISH FINISH—FIVE-COAT WORK STANDING TRIM

(a) All Pine, Cypress, Birch, Oak, or Ash Wood (locations designated) shall first be sponged with water to raise the grain. Then dry thoroughly. Sandpaper to a smooth surface and apply a thin coat of *Pitcairn Silver Gray Acid Stain*. After this has dried well, apply a coat of *White Zinc Filler*, properly reduced with *Leptyne*, turpentine, or benzine, and brushed well into the grain. (Do not add oil when thinning the Filler.) The excess of Filler

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must be carefully and neatly cleaned from the surface by rubbing across the grain.

(b) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. Fill all nail holes with putty tinted to match the finish.

(c) After twelve hours, apply a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac.

(d) Apply two coats of *Pitcairn Aged Finishing Spar Varnish*, allowing at least forty-eight hours between coats for drying. Sand lightly between Varnish coats with No. 0 paper.

(e) If an extra-fine job is desired, apply a third coat of *Pitcairn Aged Finishing Spar Varnish*.

(f) If desired, the last coats may be rubbed to a dull finish with fine pumice stone and rubbing oil.

(g) If a dull finish is desired, without the expense of rubbing, substitute *Pitcairn Aged Flat Finish* for the last Varnish coat.

(h) Apply Flat Varnish freely with a badger-hair or black fitch flowing brush.

(i) Apply only enough Spirit Lacquer to seal the Stain. Avoid a heavy coating.

Specification No. 64:

MISSION FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Pine, Cypress, Birch, Oak, or Ash Wood (locations designated) shall first be sponged with water to raise the grain. Then dry thoroughly. Sandpaper to a smooth surface and apply a thin coat of *Pitcairn Silver Gray Acid Stain*. After this has dried well, apply a coat of *White Zinc Filler*, properly reduced with *Leptyne*, turpentine, or benzine, and brushed well into the grain. (Do not add oil when thinning the Filler.) The excess of Filler must be carefully and neatly cleaned from the surface by rubbing across the grain.

(b) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. Fill all nail holes with putty tinted to match the finish.

(c) After twelve hours, apply a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac.

(d) Apply a coat of *Pitcairn Aged Flat Finish*, flowed on with a badger-hair or black fitch flowing brush to insure a smooth dull finish.

Specification No. 65:

WAX FINISH—FOUR-COAT TRIM STANDING TRIM

(a) All Pine, Cypress, Birch, Oak, or Ash Wood (locations designated) shall first be sponged with water to raise the grain. Then dry thoroughly. Sandpaper to a smooth surface and apply a thin coat of *Pitcairn Silver Gray Acid Stain*. After this has dried well, apply a coat of *White Zinc Filler*, properly reduced with *Leptyne*, turpentine, or benzine, and brushed well into the grain. (Do not add oil when thinning the Filler.) The excess of Filler must be carefully and neatly cleaned from the surface by rubbing across the grain.

(b) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. Fill all nail holes with putty tinted to match the finish.

(c) After twelve hours, apply a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac.

(d) Apply *Patton's Seventeenth Century Wax* and polish by hand-rubbing.

(e) If an extra-fine job is desired, allow a few hours for the first coat to dry. Apply a second coat of *Wax* and again polish.

MAHOGANY WOOD DARK OR EXTRA DARK MAHOGANY EFFECT

Specification No. 66:

VARNISH FINISH—FIVE-COAT WORK STANDING TRIM

(a) All Mahogany Wood (locations designated) shall receive a coat of *Pitcairn No. 10 Mahogany Stain*, or *Pitcairn No. 15 Extra Dark Mahogany Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) This is followed by a coat of *Patton's Natural Paste Wood Filler*, tinted with Stain to match finish, properly reduced with *Leptyne*, turpentine, or benzine, and brushed well into the grain. (The excess of Filler must be carefully and neatly cleaned from the surface by rubbing across the grain.)

(d) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. Fill all nail holes with putty tinted to match the finish.

(e) Apply one coat of *Pitcairn Mahogany Glaze Varnish*; allow at least forty-eight hours' drying; follow with one coat *Pitcairn Aged Finishing Spar Varnish*. Sand lightly between Varnish coats with No. 0 paper.

(f) If an extra-fine job is desired, apply a third coat of *Pitcairn Aged Finishing Spar Varnish*.

(g) If desired, the last coat may be rubbed to a dull finish with fine pumice stone and rubbing oil.

(h) If a dull finish is desired without the expense of rubbing, substitute *Pitcairn Aged Flat Finish* for the last Varnish coat.

(i) Apply Flat Varnish freely with a badger-hair or black fitch flowing brush.

(j) Apply only enough Spirit Lacquer to seal the Stain. Avoid a heavy coating.

BIRCH WOOD DARK OR EXTRA DARK MAHOGANY EFFECT

Specification No. 67:

VARNISH FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Birch Wood (locations designated) shall receive a coat of *Pitcairn No. 10 Mahogany Stain*, or *Pitcairn Stain No. 15*, the excess being removed with a cloth after sufficient time has elapsed for

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penetration. Fill all nail holes with putty tinted to match the finish.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) Apply one coat of *Pitcairn Mahogany Glaze Varnish*; allow at least forty-eight hours' drying, and apply one coat of *Pitcairn Aged Finishing Spar Varnish*. Sand lightly between Varnish coats with No. 0 paper.

(d) If an extra-fine job is desired, apply a third coat of *Pitcairn Aged Finishing Spar Varnish*.

(e) If desired, the last coat may be rubbed to a dull finish with fine pumice stone and rubbing oil.

(f) If a dull finish is desired without the expense of rubbing, substitute *Pitcairn Aged Flat Finish* for the last Varnish coat.

(g) Apply Flat Varnish freely with badger-hair or black fitch flowing brush.

Specification No. 68:

MISSION FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Birch Wood (locations designated) shall receive a coat of *Pitcairn No. 10 Mahogany Stain*, or *Pitcairn Stain No. 15*, the excess being removed with a cloth after sufficient time has elapsed for penetration. Fill all nail holes with putty tinted to match the finish.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) Apply two coats of *Pitcairn Aged Flat Finish*, flowed on with a badger-hair or black fitch flowing brush to insure a smooth dull finish. Allow at least twenty-four hours between coats for drying.

Specification No. 69:

WAX FINISH—THREE-COAT WORK STANDING TRIM

(a) All Birch Wood (locations designated) shall receive a coat of *Pitcairn No. 10 Mahogany Stain*, or *Pitcairn Stain No. 15*, the excess being removed with a cloth after sufficient time has elapsed for penetration. Fill all nail holes with putty tinted to match the finish.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) Apply *Patton's Seventeenth Century Wax* and polish by hand-rubbing.

(d) If an extra-fine job is desired, allow a few hours for the first coat to dry; apply a second coat of *Wax*, and again polish.

OAK WOOD—FUMED EFFECT

Specification No. 70:

VARNISH FINISH—FIVE-COAT WORK STANDING TRIM

(a) All Oak Wood (locations designated) shall receive a coat of *Pitcairn No. 11 Fumed Oak Stain*,

the excess being removed with a cloth after sufficient time has elapsed for penetration.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) This is followed by a coat of *Patton's Natural Paste Wood Filler*, tinted with Stain to match the finish, properly reduced with *Leptyne*, turpentine, or benzine, and brushed well into the grain. (The excess of Filler must be carefully and neatly cleaned from the surface by rubbing across the grain.)

(d) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. Fill all nail holes with putty tinted to match the finish.

(e) Apply two coats of *Pitcairn Aged Finishing Spar Varnish*, allowing at least forty-eight hours between coats for drying. Sand lightly between Varnish coats with No. 0 paper.

(f) If an extra-fine job is desired, apply a third coat of *Pitcairn Aged Finishing Spar Varnish*.

(g) If desired, the last coat may be rubbed to a dull finish with fine pumice stone and rubbing oil.

(h) If a dull finish is desired without the expense of rubbing, substitute *Pitcairn Aged Flat Finish* for the last Varnish coat.

(i) Apply Flat Varnish freely with a badger-hair or black fitch flowing brush.

(j) Apply only enough *Spirit Lacquer* to seal the Stain. Avoid a heavy coating.

Specification No. 71:

MISSION FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Oak Wood (locations designated) shall receive a coat of *Pitcairn No. 11 Fumed Oak Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) Apply two coats of *Pitcairn Aged Flat Finish*, flowed on with a badger-hair or black fitch flowing brush to insure a smooth dull finish.

Specification No. 72:

WAX FINISH—THREE-COAT WORK STANDING TRIM

(a) All Oak Wood (locations designated) shall receive a coat of *Pitcairn No. 11 Fumed Oak Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) Apply *Patton's Seventeenth Century Wax* and polish by hand-rubbing.

(d) If an extra-fine job is desired, allow a few hours for the first coat to dry; apply a second coat of *Wax*, and again polish.

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OAK AND ASH WOODS EARLY ENGLISH EFFECT

Specification No. 73:

VARNISH FINISH—FIVE-COAT WORK STANDING TRIM

(a) All Oak and Ash Woods (locations designated) shall receive a coat of *Pitcairn No. 12 Early English Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) This is to be followed by a coat of *Patton's Natural Paste Wood Filler*, tinted with Stain to match finish, properly reduced with *Leptyne*, turpentine, or benzine, and brushed well into the grain.

(d) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. Fill all nail holes with putty tinted to match the finish.

(e) Apply two coats of *Pitcairn Aged Finishing Spar Varnish*, allowing at least forty-eight hours between coats for drying. Sand lightly between Varnish coats with No. 0 paper.

(f) If an extra-fine job is desired, apply a third coat of *Pitcairn Aged Finishing Spar Varnish*.

(g) If desired, the last coat may be rubbed to a dull finish with fine pumice stone and rubbing oil.

(h) If a dull finish is desired without the expense of rubbing, substitute *Pitcairn Aged Flat Finish* for the last Varnish coat.

(i) Apply Flat Varnish freely with a badger-hair or black fitch flowing brush.

(j) Apply only enough Spirit Lacquer to seal the Stain. Avoid a heavy coating.

(k) For a deep, rich, coffee-brown effect, in place of the first Varnish coat apply one coat of *Pitcairn Walnut Waterspar Colored Varnish*.

BIRCH, PINE, CYPRESS, REDWOOD, AND FIR WOOD EARLY ENGLISH EFFECT

Specification No. 74:

VARNISH FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Birch, Pine, Cypress, Redwood, and Fir Wood (locations designated) shall receive a coat of *Pitcairn No. 12 Early English Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration. Fill all nail holes with putty tinted to match the finish.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) Apply two coats of *Pitcairn Aged Finishing Spar Varnish*, allowing at least forty-eight hours between coats for drying. Sand lightly between Varnish coats with No. 0 paper.

(d) If an extra-fine job is desired, apply a third coat of *Pitcairn Aged Finishing Spar Varnish*.

(e) If desired, the last coat may be rubbed to a dull finish with fine pumice stone and rubbing oil.

(f) If a dull finish is desired without the expense of rubbing, substitute *Pitcairn Aged Flat Finish* for the last Varnish coat.

(g) Apply Flat Varnish freely with a badger-hair or black fitch flowing brush.

(h) Apply only enough Spirit Lacquer to seal the Stain. Avoid a heavy coating.

Specification No. 75:

MISSION FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Birch, Pine, Cypress, Redwood, and Fir Wood (locations designated) shall receive a coat of *Pitcairn No. 12 Early English Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration. Fill all nail holes with putty tinted to match the finish.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) Apply two coats of *Pitcairn Aged Flat Finish* flowed on with a badger-hair or black fitch flowing brush to insure a smooth dull finish. Allow at least twenty-four hours between coats for drying.

(d) Apply only enough Spirit Lacquer to seal the Stain. Avoid a heavy coating.

See Specification No. 73 (j) and (k).

Specification No. 76:

WAX FINISH—THREE-COAT WORK STANDING TRIM

(a) All Birch, Pine, Cypress, Redwood, and Fir Wood (locations designated) shall receive a coat of *Pitcairn No. 12 Early English Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration. Fill all nail holes with putty tinted to match the finish.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) Apply *Patton's Seventeenth Century Wax* and polish by hand-rubbing.

(d) If an extra-fine job is desired, allow a few hours for the first coat to dry; apply a second coat of *Wax*, and again polish.

See Specification No. 73 (j) and (k).

GUM, PINE, AND FIR WOODS CIRCASSIAN WALNUT EFFECT

Specification No. 77:

VARNISH FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Gum, Pine, and Fir Woods (locations designated) shall receive a coat of *Pitcairn No. 13 Circassian Walnut Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration. Fill all nail holes with putty tinted to match the filler.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

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(c) Apply two coats of *Pitcairn Aged Finishing Spar Varnish*, allowing at least forty-eight hours between coats for drying. Sand lightly between Varnish coats with No. 0 paper.

(d) If an extra-fine job is desired, apply a third coat of *Pitcairn Aged Finishing Spar Varnish*.

(e) If desired, the last coat may be rubbed to a dull finish with fine pumice stone and rubbing oil.

(f) If a dull finish is desired without the expense of rubbing, substitute *Pitcairn Aged Flat Finish* for the last Varnish coat.

(g) Apply Flat Varnish freely with a badger-hair or black fitch flowing brush.

(h) Apply only enough Spirit Lacquer to seal the Stain. Avoid a heavy coating.

Specification No. 78:

MISSION FINISH—FOUR-COAT WORK STANDING TRIM

(a) All Gum, Pine, and Fir Woods (locations designated) shall receive a coat of *Pitcairn No. 13 Circassian Walnut Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration. Fill all nail holes with putty tinted to match the filler.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) Apply two coats of *Pitcairn Aged Flat Finish*, flowed on with a badger-hair or black fitch flowing brush to insure a smooth dull finish. Allow at least twenty-four hours between coats for drying.

See Specification No. 77 (h).

Specification No. 79:

WAX FINISH—THREE-COAT WORK STANDING TRIM

(a) All Gum, Pine, and Fir Woods (locations designated) shall receive a coat of *Pitcairn No. 13 Circassian Walnut Stain*, the excess being removed with a cloth after sufficient time has elapsed for penetration. Fill all nail holes with putty tinted to match the filler.

(b) After twelve hours, a thin coat of *Pitcairn Spirit Lacquer* or pure gum shellac shall be applied.

(c) Apply *Patton's Seventeenth Century Wax* and polish by hand-rubbing.

(d) If an extra-fine job is desired, allow a few hours for the first coat to dry; apply a second coat of *Wax*, and again polish.

See Specification No. 77 (h).

FLOOR FINISHES OAK OR ASH WOOD

Specification No. 80:

VARNISH FINISH—FOUR-COAT WORK

(a) All Oak or Ash floors (locations designated) shall receive a coat of *Patton's Natural Paste Wood Filler*, properly reduced with *Leptyne*, turpentine, or benzine, brushed well into the grain. (The excess of Filler must be carefully and neatly cleaned from the surface by rubbing across the grain.)

(b) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. Fill all nail holes with putty tinted to match the finish.

(c) The surface shall then receive a coat of *Pitcairn Tector*, reduced with *Leptyne* or turpentine, gallon for gallon. After twenty-four hours, sand carefully.

(d) Apply two coats of *Pitcairn Aged Floor Spar Varnish*, allowing at least forty-eight hours between coats for drying. Sand lightly between Varnish coats with No. 0 paper.

(e) If an extra-fine job is desired, apply a third coat of *Pitcairn Aged Floor Spar Varnish*.

(f) If desired, the last coat may be rubbed to a dull finish with fine pumice stone and rubbing oil.

Specification No. 81:

WAX FINISH—THREE-COAT WORK

(a) All Oak or Ash floors (locations designated) shall receive a coat of *Patton's Natural Paste Wood Filler*, properly reduced with *Leptyne*, turpentine, or benzine, brushed well into the grain. (The excess of Filler must be carefully and neatly cleaned from the surface by rubbing across the grain.)

(b) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. Fill all nail holes with putty tinted to match the finish.

(c) The surface shall then receive a coat of *Pitcairn Tector*, reduced with *Leptyne* or turpentine, gallon for gallon. After twenty-four hours, sand carefully.

(d) Apply *Patton's Seventeenth Century Wax* and polish with a weighted brush.

(e) If an extra-fine job is desired, allow a few hours for the first coat to dry; apply a second coat of *Wax*, and again polish.

MAPLE, BIRCH, BEECH, PINE, AND FIR WOODS

Specification No. 82:

VARNISH FINISH—THREE-COAT WORK

(a) All Maple, Birch, Beech, Pine, and Fir Wood floors (locations designated) shall receive a coat of *Pitcairn Tector*, reduced, according to directions on the can, with *Leptyne*, turpentine, or benzine. After twenty-four hours, sandpaper carefully. Fill all nail holes with putty tinted to match the finish.

(b) Apply two coats of *Pitcairn Aged Floor Spar Varnish*, allowing at least forty-eight hours between coats for drying. Sand lightly between Varnish coats with No. 0 paper.

(c) If an extra-fine job is desired, apply a third coat of *Pitcairn Aged Floor Spar Varnish*.

(d) If desired, the last coat may be rubbed to a dull finish with fine pumice stone and rubbing oil.

Specification No. 83:

WAX FINISH—TWO-COAT WORK

(a) All Maple, Birch, Beech, Pine, and Fir Wood floors (locations designated) shall receive a coat of *Pitcairn Tector*, reduced, according to directions

PROOF PRODUCTS SPECIFICATIONS

on the can, with *Leptyne*, turpentine, or benzine. After twenty-four hours, sandpaper carefully. Fill all nail holes with putty tinted to match the finish.

(b) Apply one coat of *Pitcairn Aged Floor Spar Varnish*, allowing at least forty-eight hours for drying.

WHITE ENAMEL FINISHES—BANZAI SYSTEM OAK AND ASH WOODS

Specification No. 84:

HIGH-GLOSS ENAMEL FINISH—FIVE-COAT WORK

(a) All Oak and Ash Woods (locations designated) shall receive a coat of *Patton's Natural Wood Paste Filler*, properly reduced with *Leptyne*, turpentine, or benzine, brushed well into the grain. (The excess of Filler must be carefully and neatly cleaned from the surface by rubbing across the grain.)

(b) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. Fill all nail holes with putty.

(c) Then apply two coats of *Banzai Double-Cover Undercoater* as it comes in the can, allowing twenty-four hours between coats. Sand the last coat to a smooth surface.

(d) For the next coat, use a mixture of two part of *Banzai Enamel* and one part *Banzai Double Cover Undercoater*. Sand lightly after allowing forty-eight hours for this coat to dry.

(e) The last coat shall be flowed on freely—using *Banzai Enamel* as it comes in the can.

(f) If an extra-fine finish is desired, rub the enamel coat and flow on another coat of *Banzai Enamel*.

Specification No. 85:

EGG-SHELL ENAMEL FINISH—FOUR-COAT WORK

(a) All Oak and Ash Woods (locations designated) shall receive a coat of *Patton's Natural Wood Paste Filler*, properly reduced with *Leptyne*, turpentine, or benzine, brushed well into the grain. (The excess of Filler must be carefully and neatly cleaned from the surface by rubbing across the grain.)

(b) Care must be taken that all grooves and corners are well cleaned with a hardwood stick. Fill all nail holes with putty.

(c) Then apply two coats of *Banzai Double-Cover Undercoater* as it comes in the can, allowing twenty-four hours between coats. Sand the last coat to a smooth surface.

(d) The last coat shall be flowed on freely, using *Banzai Egg-Shell Enamel* as it comes in the can.

(e) If an extra-fine finish is desired, rub the Enamel coat and flow on another coat of *Banzai Egg-Shell Enamel*.

(f) In applying *Egg-Shell Enamel* avoid retouching places which have already set or flattened.

BIRCH, MAPLE, CYPRESS, GUM, WHITEWOOD, REDWOOD, AND POPLAR WOOD METAL AND PLASTER

Specification No. 86:

HIGH-GLOSS ENAMEL FINISH—FIVE-COAT WORK

(a) All Birch, Maple, Cypress, Gum, White-wood, Redwood, and Poplar Wood, and metal and plastered surfaces (locations designated) shall receive a coat of *Pitcairn Tector*, reduced according to directions on the can, with *Leptyne*, turpentine, or benzine. If desired, covering will be improved by use of a priming mixture of one gallon *Pitcairn Tector* reduced with one gallon *Banzai Double-Cover Undercoater* and one-half gallon boiled linseed oil. After twenty-four hours, sandpaper carefully. Fill all nail holes with putty.

(b) Then apply two coats of *Banzai Double-Cover Undercoater* as it comes in the can, allowing twenty-four hours between coats. Sand between coats to a smooth surface.

(c) For the next coat use a mixture of two parts of *Banzai Enamel* and one part *Banzai Double-Cover Undercoater*. Sand lightly after allowing forty-eight hours for this coat to dry.

(d) The last coat shall be flowed on freely, using *Banzai Enamel* as it comes in the can.

(e) If an extra-fine finish is desired, rub the last Enamel coat and flow on another coat of *Banzai Enamel*.

Specification No. 87:

EGG-SHELL ENAMEL FINISH—FOUR-COAT WORK

(a) All Birch, Maple, Cypress, Gum, White-wood, Redwood, and Poplar Wood, and metal and plastered surfaces (locations designated) shall receive a coat of *Pitcairn Tector*, reduced according to directions on the can, with *Leptyne*, turpentine, or benzine. After twenty-four hours, sandpaper carefully. Fill all nail holes with putty.

(b) Then apply two coats of *Banzai Double-Cover Undercoater* as it comes in the can, allowing twenty-four hours between coats. Sand the last coat to a smooth surface.

(c) The last coat shall be flowed on freely, using *Banzai Egg-Shell Enamel* as it comes in the can.

(d) If an extra-fine finish is desired, rub the last Enamel coat and flow on another coat of *Banzai Egg-Shell Enamel*.

(e) In applying *Egg-Shell Enamel* avoid retouching places which have already set or flattened.

(f) The success of the finish depends upon each coat being thoroughly dry before another coat is applied. As much time as possible should be given between coats.

A SERVICE FOR INDUSTRIAL PAINT USERS

THE Paint and Varnish Division of the Pittsburgh Plate Glass Company has a technical staff composed of men with years of both practical and laboratory experience, whose services are at the disposal of industrial concerns who have exceptional or troublesome problems to meet.

This organization is the outgrowth of a definite demand for a service of this nature, and this group of men are functioning daily at our plants at Milwaukee, Wisconsin, and Newark, New Jersey, being known as the Patton Paint and Varnish Advisory Board.

Manufacturers are constantly striving to improve the appearance of their products; others are in search of a finish that will last longer. Special finishes to resist oil, brine, gases, extreme temperature, or vibration, are among the problems this Board has been called upon to solve.

There is always the question of reduced finishing costs, or better results at an equal cost. The Patton Paint and Varnish Advisory Board has found it possible to make suggestions which in a number of instances have resulted in material economies.

Again, there are plants which are improperly painted, where corrosion is getting in its destructive work, where dark and dingy interiors are decreasing efficiency of men and machines, and greatly multiplying the chances for accidents. A chart of standardized practices for plant maintenance, as to material and color to be used for the various needs encountered, would eliminate all guesswork and would result in much saving to almost any concern whatsoever.

The Patton Paint and Varnish Advisory Board is ready to co-operate and to assist any manufacturer in the development of new paint products

exactly suited to his problem, new methods of application as a means toward economy or improved finishes, or the preparation of charts and specifications for scientific plant maintenance. Perhaps your paint department is having difficulties which our Advisory Board, thanks to years of varied experience, can quickly remedy.

In many cases a single wrong paint product is spoiling an otherwise good finish. Sometimes the filler is causing the trouble, or it may be the priming or finishing coat. The changing of one or two ingredients in one of these paint products may make a world of difference in the quality of the final finish.

Are your finishing costs too high? Perhaps satisfactory results can be obtained with fewer coats. Or, possibly, by changing your methods of application economy can be secured.

Let our Advisory Board co-operate with your paint department. If you are now following the best practices, they will tell you so; if not, suggestions for improvement will be made.

Since the founding of the Patton Paint and Varnish Advisory Board hundreds of manufacturers have requested and received help—help for which no charge has been made or accepted. So, by availing yourself of this service you are placed under no obligation whatsoever. Any increased business that may develop must come to us on the merits of the changes suggested.

Let one of our representatives confer with you concerning any paint difficulties you may be having. Or, if the case requires it, a member of the Advisory Board will call in person. Then a thorough study of your problem will be made and a written report will be submitted to you giving in detail the recommendations of our Advisory Board.

COLOR SUGGESTIONS

IN THE following pages are illustrated a number of exteriors and interiors showing effects produced by the use of Proof Paint and Varnish Products. These selections cover a wide range of subjects. The color specifications given below each picture are not intended as infallible guides. In choosing a combination of colors, many things must be taken into account.

On exteriors, the surroundings enter largely into the problem; and in interiors the furnishings play a very important part in deciding on the wall color that will display them to the best advantage; in commercial interiors practical considerations are uppermost, but individual preference weighs heavily in the final decision.

The subjects following, therefore, are given as examples of what can be produced by the use of Proof Paint and Varnish Products. Of course, it goes without saying that where the illustration aptly meets some particular need, it may be utilized unchanged, as a guide for producing like results.

PITTSBURGH PLATE GLASS COMPANY



Pitcairn Banzai Enamel is used in finishing this white enamel entrance.

COLOR SUGGESTIONS



Color Suggestions for Subject Above

BODY—No. 308 Deep Buff Sun-Proof Paint.

TRIM—Outside White Sun-Proof Paint.

ROOF—No. 343 Indian Red Tor-on Shingle Stain.

PORCHES—Outside White Sun-Proof Paint.

PORCH FLOORS—Old Gold Porchite.

FRONT DOOR—Pitcairn Banzai White Enamel.

PITTSBURGH PLATE GLASS COMPANY



COLOR SUGGESTIONS



Color Suggestions for Subject on Opposite Page

BODY—Patton's Buff Cementhide Paint.

TRIM—Patton's Buff Cementhide Paint.

ROOF—Composition Shingles—Terra Cotta color.

WINDOW SASH AND WOOD TRIM—Outside White Sun-Proof Paint.

PORCH FLOOR—Terra Cotta color. Tile floors.

FRONT DOOR—Stained with Pitcairn Dark Mahogany Stain No. 10, varnished.

Color Suggestions for Subject Above

BODY—No. 302 French Gray Sun-Proof Paint.

TRIM—Outside White Sun-Proof Paint.

ROOF—No. 342 Ivy Green Tor-on Shingle Stain.

BLINDS—No. 336 Willow Green Sun-Proof Paint.

PORCH—No. 302 French Gray Sun-Proof Paint.

PORCH FLOOR—Maltese Blue Porchite.

FRONT DOOR—Stained with Pitcairn Stain No. 6, Golden Oak, and varnished.

PITTSBURGH PLATE GLASS COMPANY



Color Suggestions for Subject Above

No. 1

BODY—No. 340 Copper Brown Sun-Proof Paint.

TRIM—No. 55 Milwaukee Brick Sun-Proof Paint.

ROOF—No. 354 Moss Green Tor-on Shingle Stain.

PORCH FLOOR—Leaf Brown Porchite.

FRONT DOOR—Stained with Pitcairn Stain No. 6, Golden Oak, and varnished.

No. 2

BODY—Upper: No. 304 Neutral Drab Sun-Proof Paint.

Lower: No. 320 Amber Brown Sun-Proof Paint.

TRIM—Outside White Sun-Proof Paint.

ROOF—No. 342 Ivy Green Tor-on Shingle Stain.

PORCH FLOOR—Maltese Blue Porchite Paint.

FRONT DOOR—Stained with Pitcairn Stain No. 6, Golden Oak, and varnished.

No. 3

BODY—Upper: No. 320 Amber Brown Sun-Proof Paint.

Lower: No. 55 Milwaukee Brick Sun-Proof Paint.

TRIM—No. J Indian Tan Sun-Proof Paint.

ROOF—No. 362 Russet Tor-on Shingle Stain.

FRONT DOOR—Stained with Pitcairn Stain No. 6, Golden Oak, and varnished.

COLOR SUGGESTIONS



Color Suggestions for Subject Above

No. 1

BODY—No. J Indian Tan Sun-Proof Paint.

TRIM—No. 314 Rich Buff Sun-Proof Paint.

ROOF—No. 362 Russet Tor-on Shingle Stain.

BLINDS—No. 341 Copper Verde Sun-Proof Paint.

PORCH FLOOR—Leaf Brown Porchite Paint.

FRONT DOOR—Stained with Pitcairn Stain No. 6, Golden Oak, and varnished.

No. 2

BODY—No. 12X Light Olive Sun-Proof Paint.

TRIM—Outside White Sun-Proof Paint.

ROOF—No. 354 Moss Green Tor-on Shingle Stain.

BLINDS—No. 336 Willow Green Sun-Proof Paint.

FRONT DOOR—Pitcairn Banzai White Enamel.

No. 3

BODY—No. 173 Straw Sun-Proof Paint.

TRIM—Outside White Sun-Proof Paint.

ROOF—No. 343 Indian Red Tor-on Shingle Stain.

BLINDS—No. 338 Kentucky Blind Green Sun-Proof Paint.

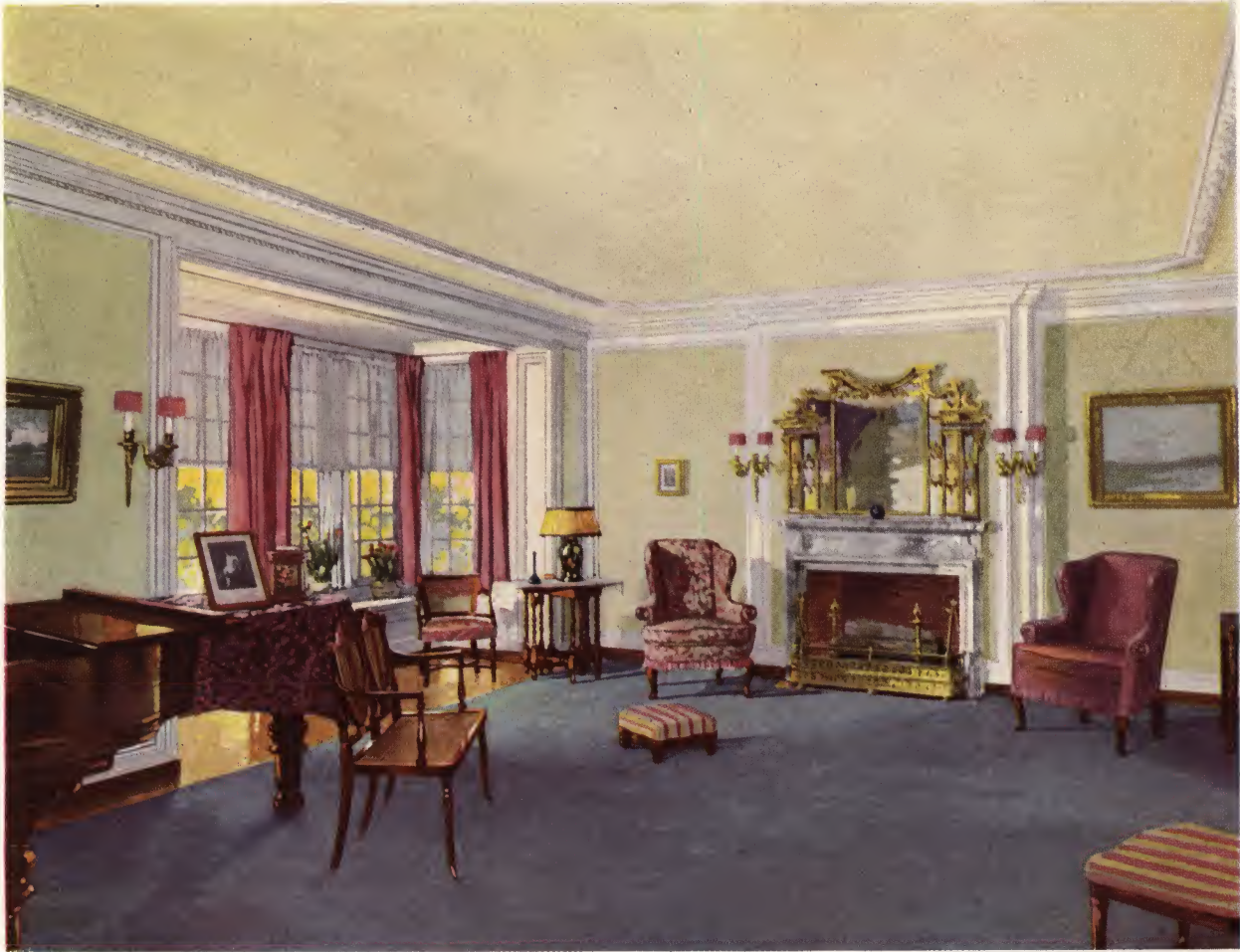
PORCH FLOOR—Leaf Brown Porchite.

FRONT DOOR—Stained with Pitcairn Stain No. 6, Golden Oak, and varnished.

PITTSBURGH PLATE GLASS COMPANY



COLOR SUGGESTIONS



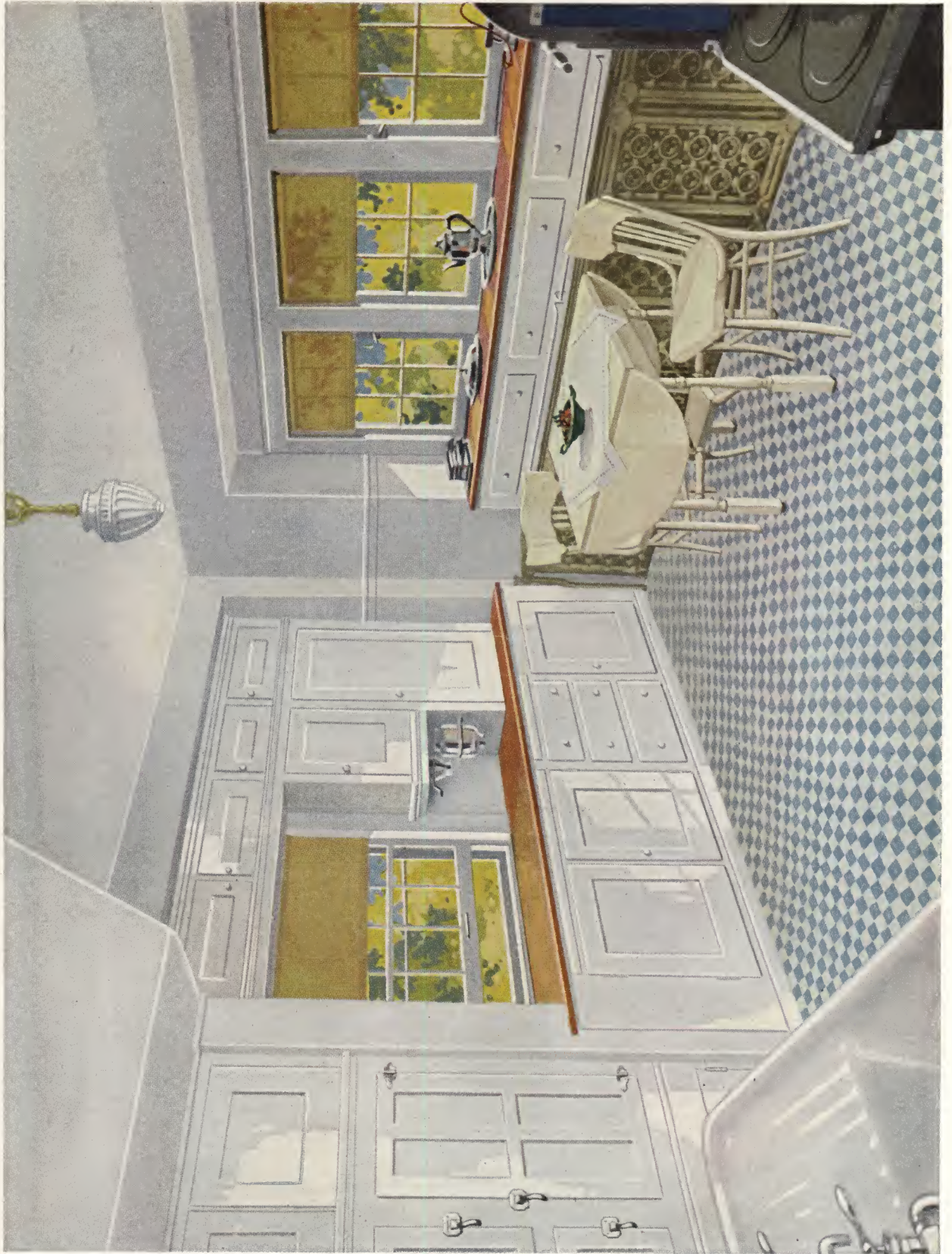
Color Suggestions for Subject on Opposite Page

CEILING—Rich Cream Velumina.
 WALLS—Medium Buff Velumina.
 WOODWORK—Banzai Enamel tinted to a
 very light gray.
 STAIR RAIL—Stained with Pitcairn Dark
 Mahogany Stain No. 10, varnished.
 FLOORS—Stained with Pitcairn Early Eng-
 lish Stain No. 12 and varnished.

Color Suggestions for Subject Above

CEILING—Ivory Velumina.
 WALLS—Velumina intermixed according to
 the following formula:
 Two parts Ivory Velumina,
 One part Silver Green Velumina,
 One part Pearl Gray Velumina.
 WOODWORK—Banzai Enamel tinted ivory.
 FLOORS—Natural and varnished.

PITTSBURGH PLATE GLASS COMPANY



COLOR SUGGESTIONS



Color Suggestions for Subject on Opposite Page

CEILING AND WALLS—Banzai Enamel tinted to a very faint gray.

WOODWORK—Same as walls, except side boards, which are to remain natural and to be varnished.

FLOORS—Covered with linoleum, varnished.

RADIATORS—Velumina intermixed according to the following formula:

Two parts Medium Buff Velumina,
One part French Gray Velumina,
One part Nile Green Velumina.

Color Suggestions for Subject Above

CEILING—Patton's Velumina intermixed according to the following formula:

Two parts Light Buff Velumina,
One part Medium Buff Velumina,
One part French Gray Velumina.

WALLS—Same as ceiling.

MOULDING AND WOODWORK—Banzai Egg-Shell Enamel tinted to same shade as the walls.

DOORS—Stained with Pitcairn Mahogany Stain No. 10, varnished and rubbed dull.

FLOORS—Natural and varnished.

PITTSBURGH PLATE GLASS COMPANY



COLOR SUGGESTIONS



Color Suggestions for Subject on Opposite Page

CEILING—Patton's White Velumina tinted
with Azure Velumina.

WALLS—Same as ceiling.

WOODWORK—Banzai Enamel tinted a deep
ivory shade.

FLOORS—Covered with linoleum and var-
nished.

Color Suggestions for Subject Above

CEILING—Patton's Rich Cream Velumina.

WALLS—Patton's Velumina intermixed ac-
cording to the following directions:

Three parts French Gray Velumina,
One part Silver Green Velumina.

Stencil design as shown.

WOODWORK—Banzai Enamel.

FLOORS—Natural and varnished.

PITTSBURGH PLATE GLASS COMPANY



COLOR SUGGESTIONS



Color Suggestions for Subject on Opposite Page

WALLS AND CEILING—Velumina tinted with Patton's Oil Colors to the desired shade.

BEAMS—White Velumina tinted to a light brown by addition of the Wall Color.

SEATS—Stained with Pitcairn Early English Stain No. 12 and varnished.

FLOOR—Natural and varnished.

Color Suggestions for Subject Above

WALLS AND CEILING—Patton's Velumina intermixed according to the following formula:

Three parts French Gray Velumina,
One part Silver Green Velumina.

INSETS—Silver Green Velumina.

BEAMS—Gold Bronze. Stencil and decorations as shown.

WOODWORK—Stained with Pitcairn Extra Dark Mahogany Stain No. 15, varnished.

SEATS—Stained with Pitcairn Silver Gray Acid Stain and varnished.

PITTSBURGH PLATE GLASS COMPANY



COLOR SUGGESTIONS



Color Suggestions for Subject on Opposite Page

CEILING—Patton's Velumina intermixed according to the following formula:
Two parts Light Buff Velumina,
One part Pearl Gray Velumina,
One part Ivory Velumina.

WALLS AND BEAMS—Pitcairn Banzai Enamel Egg-Shell Gloss tinted to match ceiling.

Color Suggestions for Subject Above

WALLS AND CEILING—Patton's Velumina intermixed according to the following formula:

One part Light Buff Velumina,
One part Pale Raspberry Velumina.

WOODWORK—Stained with Pitcairn Dark Mahogany Stain No. 10, varnished.

PITTSBURGH PLATE GLASS COMPANY



COLOR SUGGESTIONS



Color Suggestions for Subject on Opposite Page

CEILING—Patton's Velumina intermixed according to the following formula:

Two parts Medium Buff Velumina,
One part French Gray Velumina,
One part Nile Green Velumina.

BORDER AND MOULDING—Velumina intermixed according to the following formula:

Two parts French Gray Velumina,
One part Light Buff Velumina,
One part Nile Green Velumina.

WALLS—Ground Tone, Circassian Brown Velumina, finished in Tiffany effects by use of Yellow, Green, and Blue Oil Colors.

WOODWORK—Stained with Pitcairn Wood Stain No. 12, varnished, and rubbed dull.

FLOORS—Stained with Pitcairn Early English Wood Stain No. 12, varnished.

Color Suggestions for Subject Above

CEILING—Patton's Light Cream Velumina. Decorations in gold leaf and red. Border in green bronze.

WALLS—Deep Red, made with Patton's Oil Colors thinned with Turpentine.

WOODWORK—Banzai Enamel tinted to ivory.

FLOORS—Natural, varnished and waxed.

PITTSBURGH PLATE GLASS COMPANY



COLOR SUGGESTIONS



Color Suggestions for Subject on Opposite Page

CEILING—Patton's Rich Cream Velumina.

WALLS—Velumina intermixed according to the following formula:

Two parts Light Buff Velumina,
One part Medium Buff Velumina,
One part French Gray Velumina.

BEAMS AND WOODWORK—Banzai Enamel tinted a very light gray.

DOORS—Stained with Pitcairn Dark Mahogany Stain No. 10 and varnished.

FLOORS—Natural and varnished.

Color Suggestions for Subject Above

CEILING—Velumina intermixed according to the following formula:

Three parts Pearl Gray Velumina,
One part Pink Velumina.

BEAMS—Same as ceiling, with stencil design as shown.

WALLS—Dado: Circassian Brown Velumina.
Top Walls: White Velumina tinted with Patton's Oil Colors.

WOODWORK—Stained with Pitcairn Stain No. 11 and varnished.

RAILING—Stained with Pitcairn Stain No. 10 and varnished.

STAIRWAY—Natural. Varnished.

CENTER PILLARS—Top: Stained with Pitcairn Stain No. 10 and varnished.

Bottom: Carrara Glass.

SIDE PILLARS—Pitcairn Banzai Enamel.

FLOORS—Tile.

PITTSBURGH PLATE GLASS COMPANY



COLOR SUGGESTIONS



Color Suggestions for Subject on Opposite Page

CEILING—Equal parts White and Pearl Gray Velumina.

WALLS—Velumina intermixed according to the following formula:

One part Pearl Gray Velumina,
One part Silver Green Velumina.

WOODWORK—Banzai Enamel tinted a very light gray.

FLOOR—Natural and varnished.

FIXTURES—Banzai Enamel tinted to match woodwork.

Color Suggestions for Subject Above

CEILING—Velumina intermixed according to the following formula:

Two parts Ivory Velumina,
One part Silver Green Velumina,
One part Pearl Gray Velumina.

WALLS—Velumina intermixed according to the following formula:

Two parts French Gray Velumina,
One part Light Buff Velumina,
One part Nile Green Velumina.

WOODWORK—Stained with Pitcairn Dark Mahogany Stain No. 10 and varnished.

FLOORS—Pitcairn Stain No. 6, varnished.

SEATS—Tops: Stained with Dark Mahogany Stain No. 10 and varnished.

Backs and seats: Natural and varnished.

PITTSBURGH PLATE GLASS COMPANY



WALLS AND CEILING—Special shade of Velumina known as Woolworth Buff. DOORS AND OTHER TRIM—Metal, varnished.

COLOR SUGGESTIONS



UPPER SUBJECT—Patton's Ironhide on metal, Patton's Alba-Lux on ceilings and walls.
LOWER SUBJECT—Patton's Alba-Lux on ceiling, walls, and pillars.

"SAVE THE SURFACE AND YOU SAVE ALL" PAINT AND VARNISH

UNDER this slogan a campaign of education was launched in 1919, by paint and varnish and allied interests, for the purpose of getting the whole American public to use more paint and varnish, and to demand the proper finishes on manufactured articles which they purchase.

The appeal of this propaganda is directed to the individual's natural interest in what he owns. There are but few kinds of property that will not have a longer life, have greater value, and give better and longer service when they have the protection of paint and varnish. Every phase of activity, every ramification of the Save the Surface Campaign, every dollar spent on it, has for its immediate or ultimate purpose a single object common to the needs of everybody in the paint and varnish business—to educate and to actuate the public to a wider and more frequent use of paint and varnish.

The slogan "Save the Surface and you Save All—Paint and Varnish" has become widely known. Its influence has done much to change

the public attitude toward paint and varnish, but there is still much to be done. Formerly considered as luxuries, largely for the purpose of beautification, these products are now being used as prime economic necessities for the preservation of property, for cleanliness, and for their influence on morale.

From the standpoint of the industry, the Save the Surface Campaign has done more than to create new markets and outlets for its products. Representing as it does a sales appeal common to every factor in the industry and sound as regards public policy, the Save the Surface Campaign has been the means of uniting the industry in an organized body, working efficiently in the public interest for surface protection of property.

The Pittsburgh Plate Glass Company has been a consistent contributor to this movement and heartily indorses it. It is a campaign for the entire industry and will benefit alike the manufacturer, jobber, dealer, painter, and consumer. Each should contribute to its success by active co-operation with the national movement.

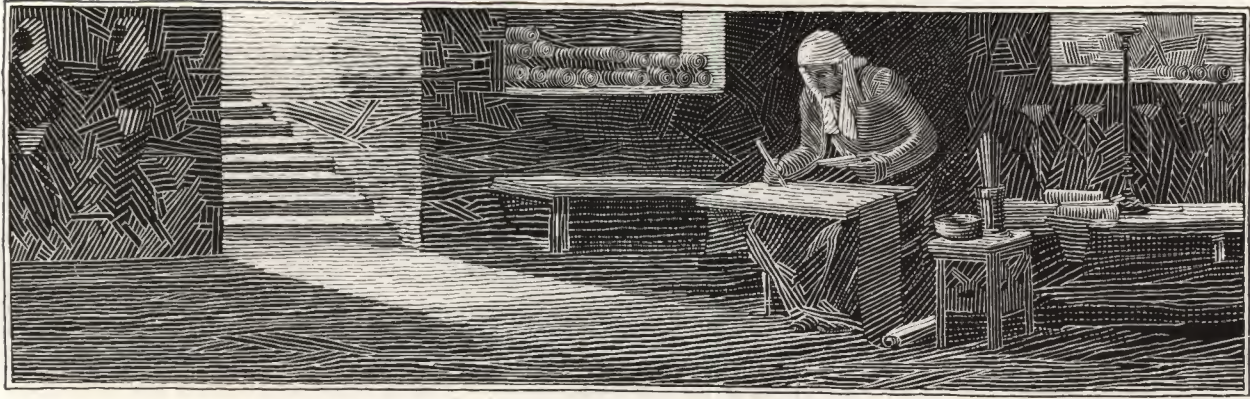


BRUSHES

“The Brush—As Important as the Paint or Varnish”



THE REED CUTTER



THE BRUSH—ITS HISTORY

AMONG the implements which have been used by man in his advance in civilization, the brush has played a most important part. From the earliest days man has had the desire to express his thoughts and to chronicle events—first evidenced in picture writing; but it was not until liquid paint came into use among the Egyptians that there was need of a brush. Previously colored earth had been used, applied in the fashion of a crayon.

"The Egyptians had neither pencil nor stylus," wrote Maspero, the French archæologist, "but they used reeds, the ends of which, soaked in water and split into minute fragments, formed a brush more or less fine according to the size of the stem." With this simple tool were laid on the brilliant colors recording the great and intimate happenings and emotions of an unparalleled civilization.

In the British Museum there are specimens of the tools and instruments used by these Egyptian painters, including palettes, remains of colors, a color box, and three brushes which appear to have been made of reeds or from the fibrous stem of palm leaves.

The Greeks of the time of the Ptolemies used the tails and feet of small fur-bearing animals as brushes. To that age may be traced the origin of using a hare's foot for applying grease paints by the members of the theatrical profession.

With the abandonment of the old schematic painting by the great Greek painters, led by Apollodorus of Athens, who flourished about 404 B.C., these Greeks developed brushes more suitable for reproducing the forms and colors of nature. At first they were made of tiny feathers, then of hair, and later of bristles set into handles of terra cotta.

Pliny "The Elder," the celebrated Roman naturalist, who perished in the eruption of Vesuvius 79 A.D., writing in his history of art says of Apollodorus that "he first bestowed true glory on the brush"; and of a contemporary of Apollodorus he wrote: "Zeuxis . . . gave to the painter's brush the full glory to which it before aspired."

With the death of the civilization of Greece and Rome, art, with its demand for brushes, was lost in the Dark Ages until the dawn of the Renaissance. With the study of the literature of ancient Greece, brought into Italy by the Byzantine scholars, began the

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transition from the medieval to the modern world and the revival of classic art.

The birth of this new art brought forth the artist brushes much as we have them today. Cennini in his "A Treatise on Painting," written in 1437, says, "But you must first know how to make use of them [colors], and this you cannot do without brushes. Two kinds of pencils are necessary, namely, pencils of miniver [probably ermine] and of hog's bristles." He then proceeds to tell how the brushes are to be made, for in those days the artist had to be a brush artisan as well.

The soft-hair brushes were made in quills much as they are made today; the others were made of bundles of hog's bristles bound securely to a round stick with waxed thread. A little later brush-making became an indus-

try and brush-makers' fraternities or guilds, as they were called, were organized in France and England and special privileges granted them. From the early Thirteenth Century it was the custom in England to whitewash the exterior of castles and then later to paint them with the colors red, blue, and green. It is evident from Cennini's "Make a large brush in which you put a pound of bristles, and bind them to a large stick . . . you may use this for whitening walls," that thus was born the "pound brush" used until even this day.

We find records of flat brushes (made of the "Stucco" type) being used in England about 1840, but it remained for the American brush industry to develop the flat paint and varnish brush to its present practical shape and design.





BRISTLE AND WHERE IT COMES FROM

IT IS doubtful if in any other of the arts or manufactures a basic material, as important as bristles are to the brush industry, is so dependent on the peculiar tastes and customs of any people. Bristle is a by-product, salvaged from swine when they are killed for food. Pork is an important article of diet in most civilized countries, but were all who eat it of the same taste as we in this country, who relish it only

when fat and young and tender, other materials than bristle would have to be found for paint and varnish application. Swine domesticated, carefully bred for food, and slaughtered as soon as they grow to maturity, do not produce bristle of length sufficient for brushes. The species of the swine and the climatic conditions under which they are grown, do, of course, influence the length and character of the bristle produced, but the



A Chinese Boar

Note the marked difference between the bristle carried by the Chinese Boar and that which we are accustomed to seeing on native swine.

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Drying Bristle

From an actual photograph

Drying bristle in China before its preparation for shipment.



Samples of Chinese Bristle

Showing several lengths and qualities, and examples of the Chinese wrapping.

BRISTLE AND WHERE IT COMES FROM



Several Samples of Russian Bristle

Contrast this with the neat way in which Chinese bristle is wrapped, as shown on the preceding page.

age at which the animal is killed, as much perhaps as anything else, determines the value of the bristle for brush-making. The Chinese have long been known to value food by its age, and depending as we do on China for a large part of our bristle supplies, we should be grateful for it.

Bristles are so peculiarly suited to brushes that no substitute for them has ever been found or devised. Their consistent elasticity in most paint vehicles and the peculiar split end or "flag," which serves the double purpose of carrying the paint and spreading it evenly and smoothly, are advantageous properties of bristle distinctly its own.

As the average contribution of a Chinese pig is less than a pound and a half of bristle suitable for brushes, some idea may be had of the difficulty of obtaining supplies in quantity sufficient to keep pace with the ever increasing consumption of paints and varnishes.

Bristles are obtained in Poland, Russia, Siberia, Bessarabia, Turkey, France, India, and China, the most valuable coming from the colder

climates where the swine are least domesticated. It is within the last thirty years that the marketing of bristle has become an industry in



A Bargain in Bristle

It is here that the merchant makes his contract with the Chinese for future delivery.

PITTSBURGH PLATE GLASS COMPANY

China, but records of the collection and sorting of bristles in other countries date back over a century. Before the World War the best bristle came from Siberia and Russia, being brought in a raw state to the fairs at Irbit and Nizhni Novgorod, the latter the largest merchandise fair in the world, from which it was sent to Petrograd or Leipsic; both are old, established markets, probably the oldest in the world.

In recent years the advantages of Chinese bristles have been exploited by the American manufacturers and by far the greater part of the bristle marketed in China has found its way into American brushes.

European and Siberian bristles are white, yellow, gray, and black. Chinese bristles are white and black, only the black Chinese being used in paint brushes.

Bristles are to be found in every province of China and vary in quality, elasticity, and taper with the province from which they come and the methods of dressing peculiar to that province. Pigs are kept in great numbers; many millions



Samples of Tampico and Horsehair

Tampico is used only in cheaper grades of special brushes.



A Bristle-Dressing Room in China

Here the bristle, after being dressed to a certain degree, is wrapped in small bundles and packages, as illustrated on page 128, in preparation for shipment abroad.

BRISTLE AND WHERE IT COMES FROM



From an actual photograph

Washing Bristle in China

This is only a superficial washing; all bristle must be washed again before careful manufacturers make it up into brushes.

of them are raised each year. After a pig is slaughtered, boiling water is poured over the carcass and the hairs are scraped off with an iron scraper. Only the stiff hairs on the back are

dressed for bristle; the shorter soft hairs that grow on the belly and legs are used for fertilizer by the native farmers or made into rope. The dressers send their buyers to the different districts of the country to purchase these raw bristles. The bristles are put into gunny sacks and transported on horseback or wheelbarrow to the godowns, or shops where they are dressed.

They are first washed and then combed out with wooden combs to clean them well and to remove all foreign matter and short hair. They are then arranged according to lengths, tied in bundles about an inch and a half in diameter, and wrapped, two bundles in a paper package, which is marked with the size and packer's brand. Packed in cases containing one hundred and ten or one hundred and thirty-three pounds, they are ready for market.

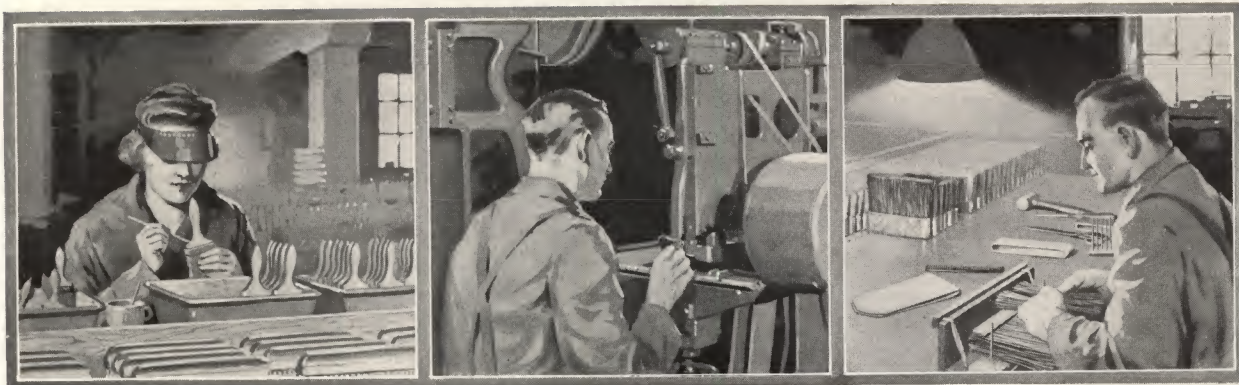
Bristles are collected in China during the months between October and March, because in these months fish are scarce and the natives slaughter pigs for their New Year festivities. It is for this reason that the Chinese bristle market opens in March. The greater part of the year's output is invariably contracted for within sixty days thereafter.





The Plant of the Rennous-Kleinle Division

PHOTO AMERICAN AIRCRAFT INC.



DEVELOPMENT OF THE AMERICAN BRUSH INDUSTRY

MODERN paint and varnish brushes owe their present state of perfection to American ingenuity, thoroughness, and skill. France, perhaps, can still claim leadership in the manufacture of fine artist brushes, but American-made painters' tools, brushes of American design and type, are in every way superior to anything made in any other part of the world.

Brushes had been made in a commercial way across the seas long before the industry became established here. It was not until the early part of the last century that paint brushes were made in this country, though paints had been extensively used for many years. The industry has been developed, especially in the last twenty-five years, until the fame of our brushes has traveled



A View in One of Our Storage Rooms

Bristle in storage at the Rennous-Kleinle plant before the cases have been broken open. These goods alone represent an investment of approximately \$750,000.

PITTSBURGH PLATE GLASS COMPANY



Cupping Bristle

The first step in the straightening process.



The Next Step

Laying out the bristle in preparation of the batch formula;
the first step after straightening.

around the globe, and they are being used in every civilized country in the world. Is it not strange that bristle from Russia should be brought to America, made into brushes, and sent back again? And that China, which has used brushes for writing for thousands of years, is using American paint and varnish brushes made from the bristle of her own hogs?

It was in 1850 that our own brush factory had its beginning, with Baltimore, Maryland, as its birthplace. This plant, started in a small way, with highest quality for its standard, soon established for itself in the mind of the painter a reputation for the best in painters' tools. Progressive, quick to approve and adopt new and better methods, its business steadily grew, as did the reputation of its product.

Until 1891 the only bristle used, with the exception of very small quantities of domestic bristle, came from Russia, Germany, and France. In that year, after most careful study and exhaustive experiments, Rennous, Kleinle & Company introduced to the world the first full line of black Chinese bristle brushes. At first these brushes were not received with favor, but, when they began to demonstrate their real worth in use, the reputation of the pioneers in their manufacture began to attract the notice of the entire brush-using world. Soon their outstanding advantages and lower cost brought them into general use.

The Pittsburgh Plate Glass Company, as it launched out into the paint business, and came

to realize the need of a factory for the maintenance of Pittsburgh quality standards and a dependable source of supply of brushes, acquired in 1901 an interest in the Rennous-Kleinle plant and the Horseshoe Brand. In 1912 Rennous, Kleinle & Company became one of the subsidiary companies of the Pittsburgh Plate Glass Company.

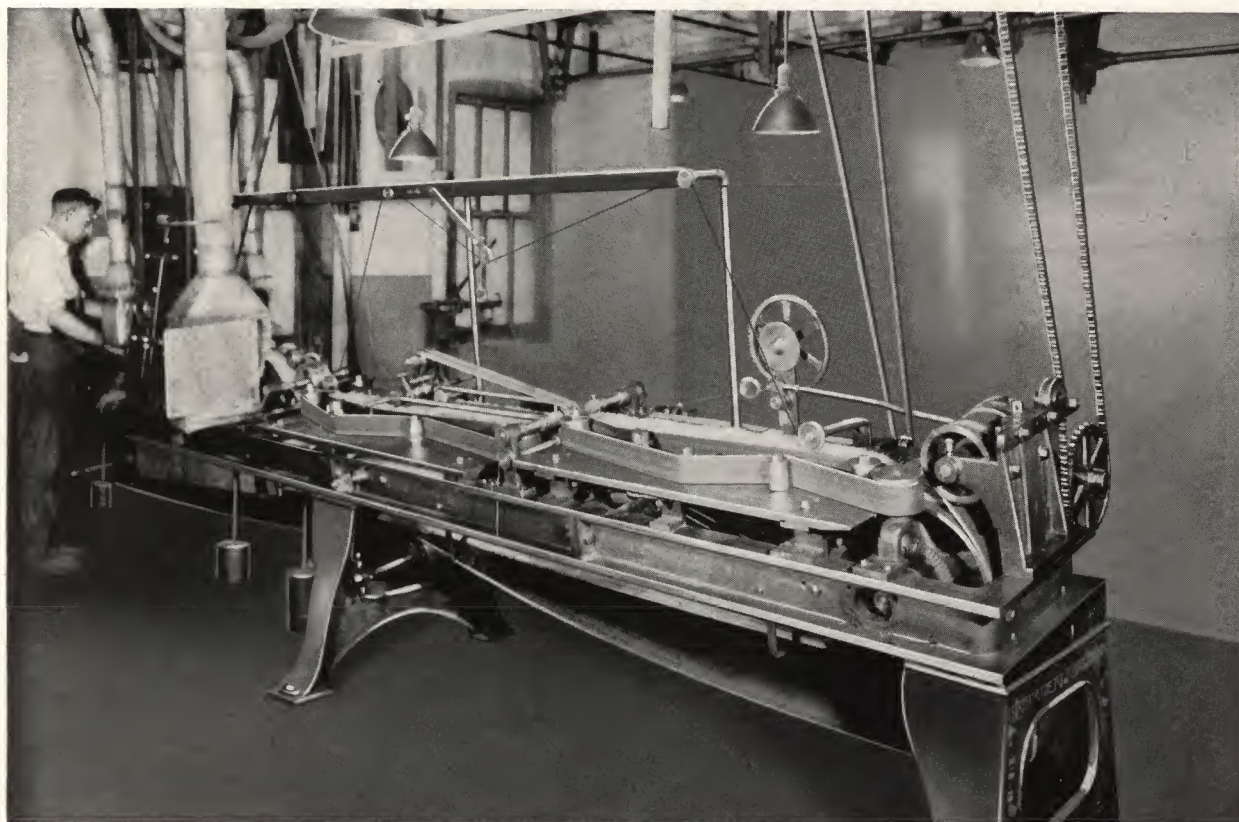
Means for plant expansion were thus provided; with an enlarged organization came more intimate knowledge of the development in paint manufacturing and painting methods. This knowledge suggested and made possible the many important improvements in brush-making so acceptable to the men held responsible for successful results with the new finishes.

On January first, 1921, Rennous, Kleinle & Company was, with other subsidiaries, consolidated with the Pittsburgh Plate Glass Company and is now operating as the Rennous-Kleinle Division.

Brush-making is a complicated process, but devoid of any mystery and, though little understood by those who use brushes, is intensely interesting. It is a modern mechanical method, employing advanced ideas in tools and machinery, and calling for the highest skill on the part of many artisans. The little journey through the Rennous-Kleinle Works that follows describes the more important processes and operations involved in better brush-making.

All bristle, whether European or Asiatic, as it grows on the hog has a natural bend or crook.

DEVELOPMENT OF THE AMERICAN BRUSH INDUSTRY



Mixing Machine

One of the battery of mixing machines on which the bristle batches are mixed with scientific accuracy.

Although dressed at its original point of collection, some of it even being bought as "straightened," it is still crooked when the brush manufacturer receives it. Under old processes, still followed in the making of some kinds of brushes, especially long-stock Russian bristle calcimine, and fine French bristle artist brushes, this bend, by clever manipulation in the hands of the artisan, is turned in toward the center of the brush. With the introduction of Chinese bristle, more modern and effective methods of handling these bends were found—the bristle is straightened. It is a peculiar property of bristle that when it is put into a liquid, this bend is greatly increased. Obviously, a brush made of unstraightened stock, with these bends running in all directions, would finger and flare and make good work an impossibility.

European bristle is washed with soap and water on a scrubbing board. After a thorough rinsing, handfuls of the bristle are taken and, with the bends all turned toward the center, each handful is tightly and closely wound with string

throughout its entire length. When the bundles are dried and the string is removed, the bristle is straight.

Chinese bristle is straightened by another equally efficient method. Bristle is very absorbent, and it is this property which is turned to advantage in the straightening process. The bristle is tightly packed in perforated galvanized iron cones open at both ends. The cones are then placed in water, containing a soap solution to remove the dirt, and boiled for several hours. The bristles, absorbing water freely, swell and, under the pressure exerted over their entire length, the cones being made of the same relative taper, are made perfectly straight from butt to flag. They are then dried in a vacuum dryer. This washing and straightening of the bristle is the first operation in the making of any brush.

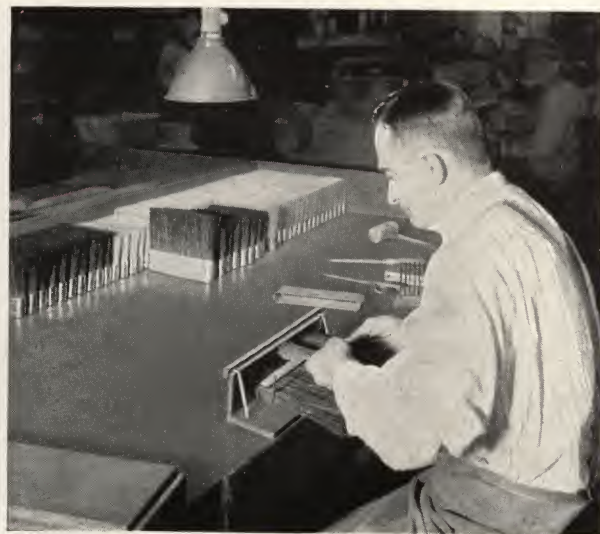
Many kinds of bristle, each with its peculiar properties and several lengths, are utilized in the building of brushes to meet their special requirements. Just as the modern paint chemist uses various combinations of pigments and

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Weighing Bristle

In this operation scrupulous accuracy is of the highest importance.



Laying Out Brushes

One of the operations in setting up calcimine brushes.

vehicles to produce his desired results, our brushes are built to formulas as carefully and scientifically predetermined. The batches of bristle and the quantity which go into a brush are as carefully ascertained as the constituents of the batches themselves.

The mixing of the various component parts of a bristle batch is a most interesting process. Here the introduction of modern semi-automatic machinery makes possible greatly reduced costs and better results. An illustration on page 134

shows the workers laying out the eight or ten kinds or sizes of bristle that go to make the batch, each kind or size laid out in a thin layer, one on top of the other, until the required formula has been completed—this preparatory to mixing them. On the extreme right in the same picture a worker is shown mixing bristle by the old method of halving a handful, laying one half on top of the other and repeating this operation until the various sizes and kinds are thoroughly intermixed. After each operation he



Making Varnish Brushes

Setting up flat and oval varnish brushes; these illustrations show clearly the method of chiseling.

DEVELOPMENT OF THE AMERICAN BRUSH INDUSTRY



Setting Up Brushes

Setting up leather bound flat paint or stucco brushes.



Nailing Leather Bound Brushes

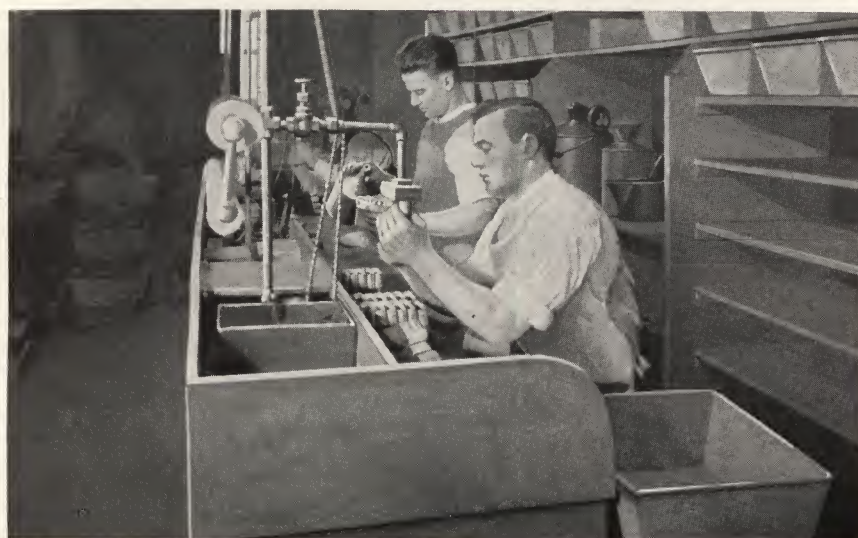
Regular nailing requires a skillful operator.

draws his handful through a bench comb to keep the bristle straight. This rather slow, though effective method has been greatly improved in the machine illustrated, which handles bristle of all lengths and kinds, mixing them thoroughly and with little waste. Numbers of these machines provide the steady flow of prepared bristle to the brush-makers. After a batch is mixed it is carefully bundled and wrapped to preserve it in workable condition; it is then stored subject to the requirements of the brush-making depart-

ments. Several hundreds of these batches are required to make the various sizes of the many kinds of brushes demanded of the industry.

The bristle batch and quantity of bristle which go into a brush are determined with equal care. It will be of interest to follow the processes through which some of the more important kinds of brushes pass.

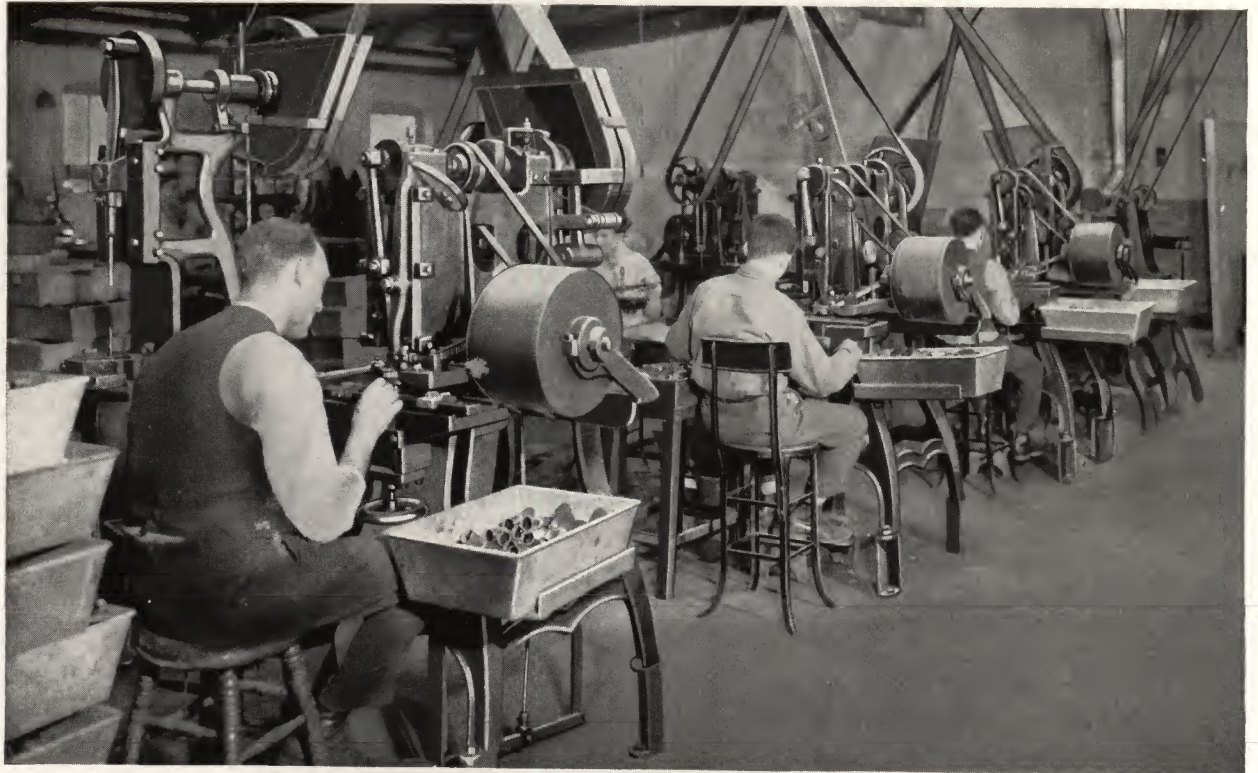
The brush mostly used by the modern painter is the flat paint brush, either metal or leather bound. The first operation in making is "set-



Cementing Metal Bound Flat Paint Brushes

Note the way in which the cement is first poured and then forced about the bristle by hot compressed air.

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Nailing Machines

A force of nailing machines where ferrules are firmly attached to the bristle end of the brush with amazing rapidity.

ting up." The brush formula calls for a certain weight in each brush. The brush-maker carefully weighs out of the designated batch to a variation of less than one sixty-fourth of an ounce the quantity required by the formula, laying the bristle in piles overlapping one another until the required number of brushes is provided for. Next taking one of the little piles and carefully butting the stock down solid, he puts it into the metal band. In the case of leather bound brushes a temporary metal band is used. Then inserting a strip of wood, fiber, or cardboard between the bristle at the butt end, he pulls the bristle through the ferrule to its required length, and carefully combs the bristle so that it will lie perfectly straight. This accomplished, he is ready for the next operation.

Some brushes are cased, that is, the outer part of them has bristle of a different batch than has the middle. This casing of the brush is a simple process. The brush-maker first takes his casing and lays it flat on the edge of his bench, the flag end of the bristle overhanging; the middle is then placed upon the casing. Laying this bristle in

the palm of his left hand, he puts his right thumb into the center of it, closing his left thumb and its handful of bristle around the right one; he withdraws his right thumb and the trick is done.

Here the similarity in the making of the metal and leather bound brushes ceases. The metal bound brush next goes to the cementing bench. Brush-makers' cement is a rather heavy-bodied shellac varnish. It is made of pure rosin-free shellac, with alcohol as a solvent and small quantities of neutral oils added to prevent its drying brittle-hard. This cement is poured into the open end of the ferrule and is then blown under compressed hot air to insure its surrounding every single bristle.

Many brushes are now made with the bristle vulcanized in rubber instead of set in cement or glue. The butt ends of the bristles are thoroughly surrounded with liquid rubber and then vulcanized into a solid block. This process of setting is not complicated, though it involves many additional operations.

The next step is to the semi-automatic nailing machines where the nails are driven through the

DEVELOPMENT OF THE AMERICAN BRUSH INDUSTRY

ferrule and bristle. The nails are then cut off and clinched. The handle is next inserted; the two or three heading nails which secure the handle and ferrule are driven at one operation.

In leather bound brushes the cement is rubbed into the butt end of the brush, after which the temporary metal band is replaced with the leather one. The brush is nailed by hand, when the cement has hardened sufficiently.

The proper taper of paint brushes is obtained by mixing various lengths of bristle in the batch. Varnish brushes, on the other hand, are made of bristle of more nearly the same length. The taper, or chisel, as it is called, is formed by gradually shortening the bristle on each of the two faces. This is done by putting the bristle

flag end down into a cup, the inner shape of which is that desired for the finished brush.

The illustrations of both oval and flat varnish brush-making clearly show the process. This chiseling is never done by trimming or by grinding on an abrasive wheel, or any method which would remove the soft flag ends of the bristle. These are a necessity to good brushes.

Just as care and skill are important in the actual making, so too are they important in the various steps in finishing. The brushes are beaten out to remove any loose bristles, trimmed, buffed, wrapped, and boxed, each operation so performed that the finished product will pass inspection, meeting the Pittsburgh Plate Glass Company standards for the best in brushes.



A Handle-Nailing Machine



Soft Hair Bearing Animals

Principal animals which contribute some part of their fur to the manufacture of high grade soft hair brushes.

- (A) Siberian Squirrels, the trade name for whose fur is Camel Hair. (B) Civet (Spotted Skunk). (C) European Badger.
 (D) American Badger. (E) Mink, whose fur is known to the trade as Red Sable. (F) Skunk. (G) Genet.



SOFT HAIR—WHAT IT IS AND WHERE IT COMES FROM

BRISTLE, because of the great quantity used in brush-making, has elevated the boar to a position of importance in this industry, but other animals also play a material part in making possible much of the decorative and preservative painting and varnishing of today.

The brushes used by painter, decorator, and artist are broadly classified as bristle brushes and soft hair brushes. Were it not for the ox hair used, the term "fur brushes" would be more descriptive than "soft hair," for we depend upon our fur-bearing animals, particularly the various members of the weasel family—the sable, kolinsky, skunk, and badger, for the material used in many brushes. Goat hair is used for some of the cheaper brushes.

Although a substantial amount of this material is obtained in our own country, much of it is to be found only in the innermost sections of Siberia.

The soft, straight hair, of which the so-called camel hair brushes are made, is clipped from the tails of Russian and Siberian squirrels. These are better furred than the American squirrels, whose hair is not suitable for brushes.

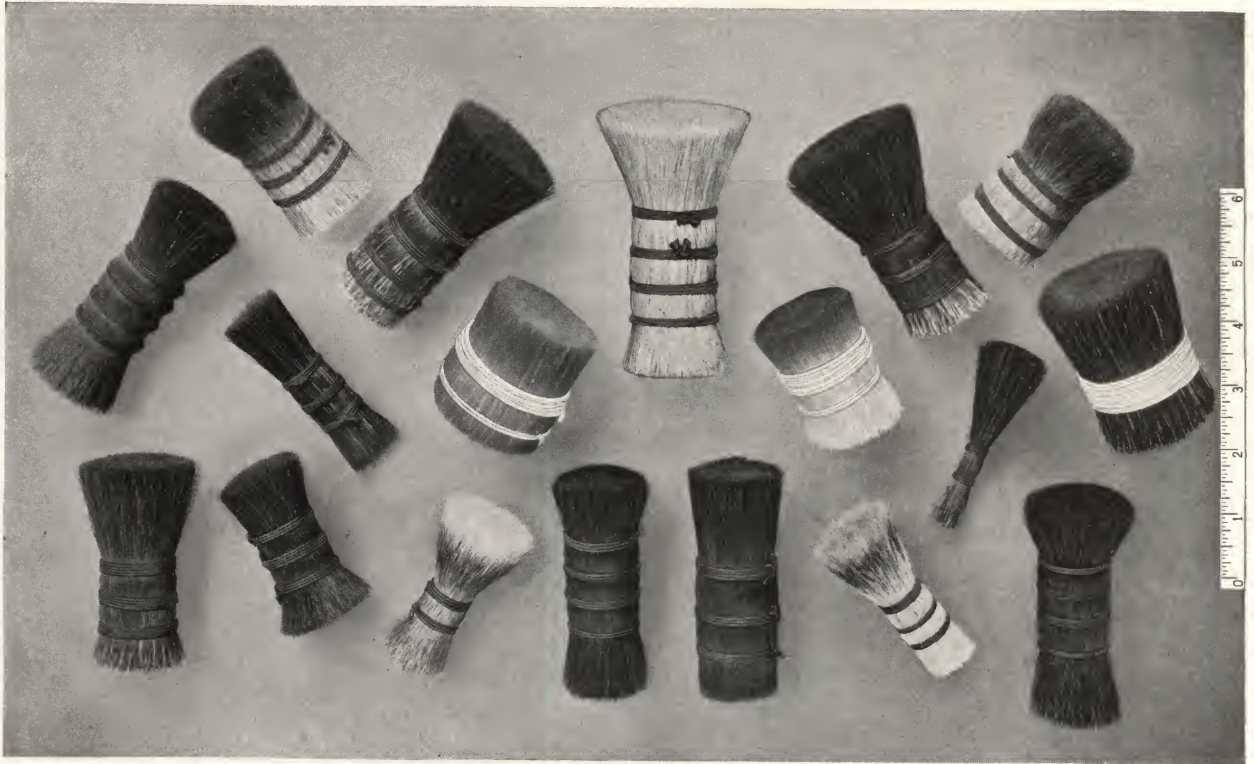
It is an interesting and notable fact that the fur of the squirrel, which is red in Germany, becomes gray in the winter coat as we approach the eastern part of Europe, growing darker and darker as we journey east, until it reaches an almost black color along the Pacific coast. Thus,

while all members of the same family, these little animals produce hair of entirely different colors, though much the same in quality.

This hair is classified as Kazan, Sakkamina, and Talahutky. The province of Kazan furnishes red and reddish gray skins. Light blue skins are found in the Yeniseisk, and skins of deep, steel blue color in the province of Yakutsk in far eastern Siberia. These are the Sakkamina squirrels; the hair is usually referred to by the trade as "blue." Talahutky squirrels from southern Siberia are scarce and the hair is used only in lettering and striping brushes. It is gray with a pronouncedly darker stripe near the tip. It resembles badger hair in appearance, though much finer.

Squirrel hair is straight and fine in texture, but not very elastic. It makes an ideal brush for applying japan colors, lacquer, and similar light-bodied varnishes, and for fine bronzing. It is used for lettering and striping brushes, but is not so well suited to this purpose as sable or ox hair.

Of all the furs used by the brush-maker the most valuable, perhaps, is red sable or Siberian mink. This hair is very fine, has strong, sharp points, great elasticity, and carries color well. It is used exclusively for fine artist and lettering brushes. The red sable, or kolinsky, as it is called by the furrier, is about fifteen inches long, has an eight-inch tail, and is of a rich yellow or brownish yellow color—it is not red. It is found



Soft Hair

Some of the many materials used in soft hair brushes. The 6-inch scale at the right will give an idea of the length of the hair.

in Siberia in the district east of the Yenesei River. Comparatively few of these animals are caught and the fur is very expensive.

The finest lettering or striping brushes are made from the tail hair of the sable of Russia and Siberia, called black sable by the trade. This hair is straight, elastic, of uniform taper, and has splendid points; it is especially desirable for the longer lettering and striping brushes. As it is scarce, there are many substitutes, though nothing serves so well. The so-called black sable used in sign writers' and flowing brushes is civet.

Civet hair is obtained from the tail of the civet cat of commerce. (This animal should not be confused with the civet cat of Africa, which it does not resemble in any way.) It is the little striped skunk found chiefly in our western, central, and southern states; this animal is not so large as the true skunk, being only about one foot long, but having a tail nearly as long as its body. The body is black, marked with white square-like patterns—designs unusual in nature. The tail hair, which is black and very long, is straight and regular, has good points,

and is fairly elastic. It is used for lettering, striping, sign writers', and lacquering brushes, and when so used is often called black sable.

In this country, so-called fitch hair is clipped from the tails of the American skunk. The general color of the animal is brownish black. It has a tip of white on the head and is marked on the back with white stripes of considerable variation; the long, bushy tail has a white tip. The skunk is found in almost every part of the United States, but the quality of the hair varies. The finest skins come from Michigan, Ohio, New York, Pennsylvania, and the lower Dominion of Canada. The hair of the animals found in these sections is blacker and more regular in form, with greater tensile strength and better points. (Tail hair only is used in brushes—the black in fitch brushes, the white mixed with badger to reduce the cost of badger brushes.)

Skunk hair is not used alone to any great extent. It is too coarse to substitute for civet and has not sufficient elasticity for good varnish flowing brushes. When mixed with Chinese bristle in proper proportion it makes an excellent

SOFT HAIR

brush. The hair of the American black bear, while sometimes employed in brushes, is never used alone. Though of great strength, it is too kinky to be used in large proportion; it is used mixed with bristle, skunk, or other hair.

For many years the carriage painter has looked upon badger as the only hair for flowing varnish brushes. While their cost does restrict their use to a degree, there seems to be an increasing demand for badger brushes. Badger hair is very elastic and has greater tensile strength than any other soft hair; it makes the best possible brush for flowing carriage or automobile varnishes.

The badger is found throughout Europe, Asia, Canada, and the central and western portions of the United States. The best hair comes from Russia, Siberia, Macedonia, and the Balkans generally. The cost of imported badger skins, however, has encouraged the greater use of American hair, although the latter is too soft for the better grades of brushes.

Cattle, too, contribute to brush-making; the long, soft hair which prevents insects intruding too far into their ears, makes excellent flowing brushes for enamel and color varnishes and for certain kinds of sign writers' brushes. The best ox hair comes from Europe; it is lighter in color, stronger, and more elastic than the American hair, though some excellent brushes have been made from our own product.

Goat hair is the least important of the group. It is largely obtained from pieces salvaged when making goatskin robes and coats. It lacks elasticity and its natural kink cannot be straightened. It is used either in its natural brown color or dyed black for the cheaper grades of mottling and bronzing brushes.

Japanese pony hair has little value though it does masquerade as "camel hair." Genet, the dyed tail hair of the ringtail and other wild cats, is also used as a substitute for squirrel; it is soft, silky, and of attractive appearance.

The preparation of soft hair is tedious and costly. When the tails are received they are put into revolving drums and treated with hot sawdust to remove the dirt and animal fat. The hair is clipped close to the skin, carefully washed and rinsed, then put into small bundles and wound with string to straighten it. When it is dry it is combed to remove all wool and dragged into lengths. Great skill is necessary to avoid tearing or destroying the points, as these points mean everything in soft hair brushes. Badger hair is pulled from the hide. It is washed, dragged, and dressed as is other soft hair, but in addition is bleached to make it as white as possible.

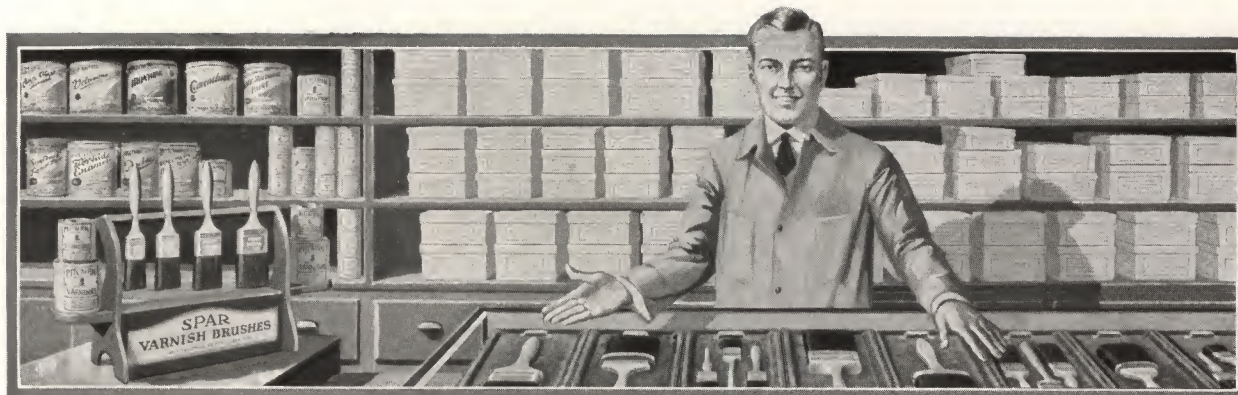
Acknowledgment is made to Gerrit S. Miller, Jr., of the Smithsonian Institution, United States National Museum, for his helpful criticisms and suggestions in compiling information on soft hair bearing animals.





Brush Display Boxes

Display boxes given without charge to dealers as one of the many ways in which the Pittsburgh Plate Glass Company helps the dealer to dispose of his merchandise.



MERCHANDISING BRUSHES

THE American Master Painter is more fortunate in the brushes available for his needs than is his fellow artisan in other countries. Although brushes were made elsewhere many years before the industry was started in America, the thought and care devoted to the art of brush-making by our manufacturers here have made possible better and more practical brushes than are to be found in other lands.

The American types, with few exceptions, are distinctly different. Our characteristic habit of making things to produce best the work expected of them, of departing from old ideas and quickly adopting new ones immediately their worth is proved, has created brushes of notably better quality, brushes, indeed, producing more and finer work.

In this development the Rennous-Kleinle Division has been for many years among the foremost, contributing its full share of improvements and refinements in manufacture and many new types of brushes that have added greatly to the efficiency of painting.

The acquisition of Rennous, Kleinle & Company by the Pittsburgh Plate Glass Company brought resources in knowledge of materials and painting methods which have made possible a

most comprehensive development of brushes for the master painter. In touch at all times with changes in paint- and varnish-making, we are constantly improving brushes to meet the needs of the new painting methods.

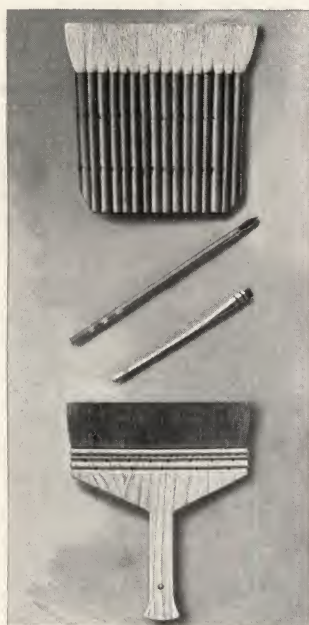
We qualify as specialists in the making of painters' tools and recommend only brushes that we know are practical and economical to use.

We illustrate and describe here a number of lines of brushes; while they are but general examples of Rennous-Kleinle manufacture, they are the best of their types. We recommend them to the painter with the assurance, founded on years of their success, that better brushes cannot now be made.

The *Extra Black Stucco* Leather Bound Flat Paint Brush has for many years enjoyed a larger sale and use than any brush of similar kind. It is made of pure black Chinese bristle—a mixture of several kinds and lengths to pro-

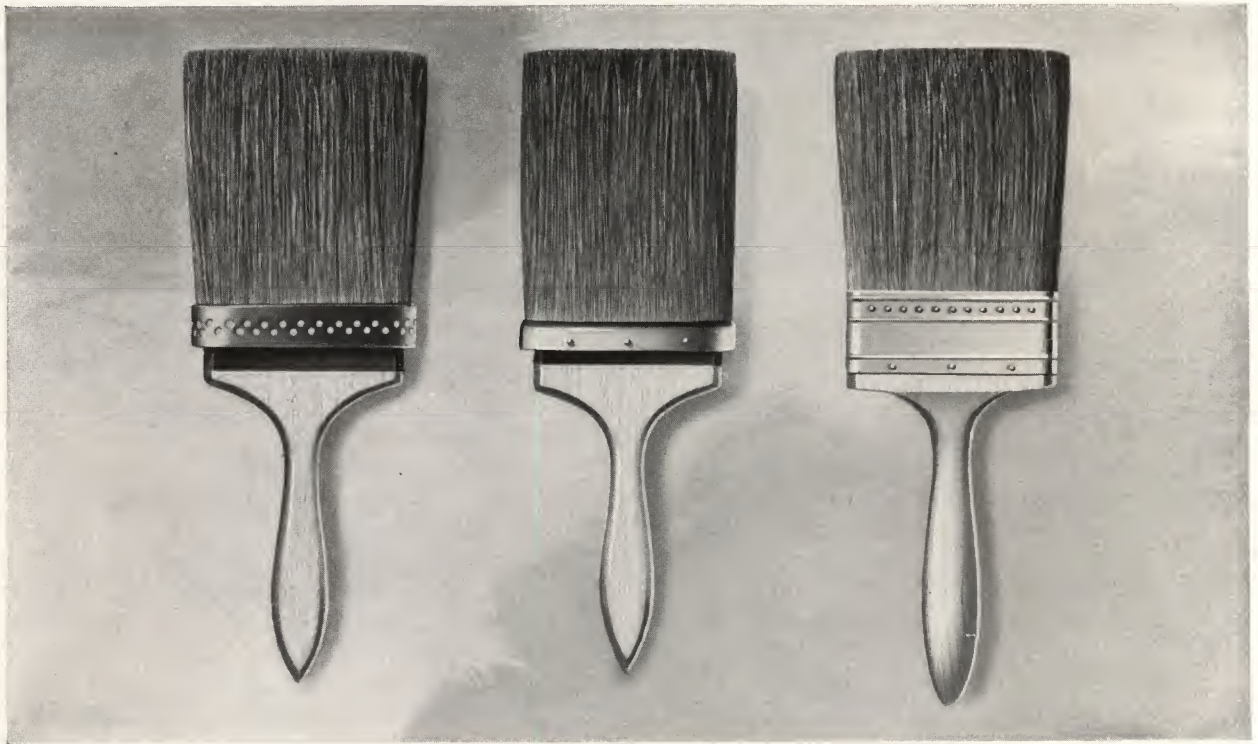
duce a brush satisfactory not only when first put into work, but one which gives complete satisfaction throughout a long life. It is a brush that needs no breaking in.

This brush contains much stock; it is a quarter of an inch oversize; but it is made with such refinement and consideration for balance that it



*Brushes of
Oriental Manufacture*

PITTSBURGH PLATE GLASS COMPANY



The Three Leaders in the Brush Industry

The Extra Black Stucco, Leather Bound, Steelbound, Metal Bound Stucco Type, and Best Black, Metal Bound, Flat Paint Brushes.

is more satisfactory than most brushes made with less stock. It is made in all widths and will do much more work than most stucco brushes.

The *Steelbound* is a metal bound brush of the stucco type; it is a recent development. In creating this excellent master painter's tool we have successfully avoided the criticism leveled against attempts to make a similar metal bound stucco: that of being too heavy and awkwardly out of balance.

Our metal bound stucco is made with a very narrow band, so light that it balances perfectly. This brush has won many friends among users of both leather and metal bound brushes, since it combines advantages of both types. It is made of the same carefully selected Chinese bristle used in the leather bound stucco and is vulcanized in rubber. It is recommended as a highly satisfactory painter's tool.

Many painters prefer the metal bound or so-called wall type of brush. To these men we recommended the *Best Black*, a brush made of the same stock used in our best leather bound brushes, and a brush made with every consideration for the master painter's needs. The

brush is proof against shedding. It is a tool of such pre-eminent quality that it dominates an overcrowded field.

In many parts of this country the oval style paint and varnish brush, an outgrowth of the old "pound" brush, is now extensively used. As these brushes are now made, slightly oval and chiseled ready for use, they have great merit.

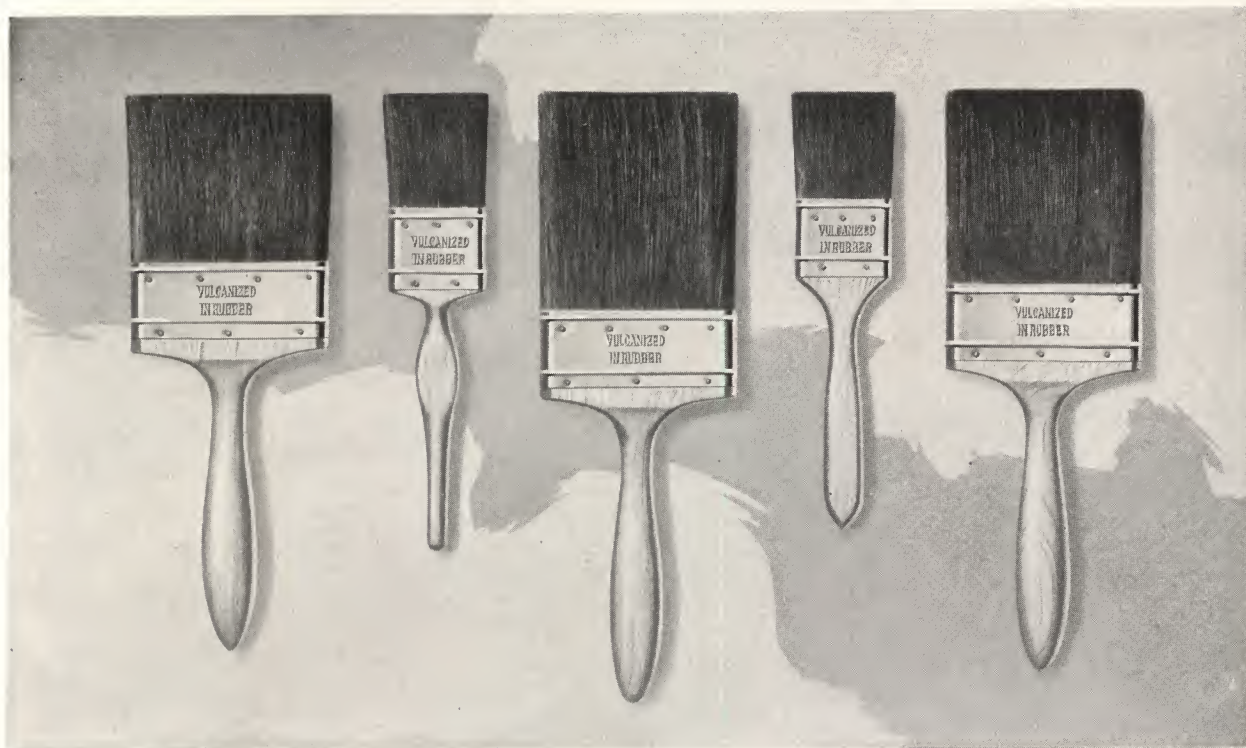
Efforts have been made to manufacture brushes of this type with a so-called solid center construction. We too make a solid center oval, but find these latter brushes less elastic, more difficult to keep clean, and of shorter actual wearing length than the open center oval.

We are decidedly in favor of the open center brush and recommend to users of oval paint and varnish brushes our *Useful* as the highest-grade brush of the type.

For varnishing, this brush in the smaller sizes or a similar one, such as the *Mikado*, is suggested with confidence in your satisfaction.

Many master painters prefer flat brushes for varnishing or enameling, and with a full knowledge of the requirements for the proper application of modern varnish and enamels, we created,

MERCHANDISING BRUSHES



Paint and Varnish Brushes

Moderate-priced brushes that are designed for severe service: the *Black Filler Metal Bound Flat Paint*, *Chang Flat Varnish*, *Master Painter Metal Bound Flat Paint*, *Four-Fifty Flat Varnish*, and the *Arkay Metal Bound Flat Paint*. All of these brushes enjoy very tremendous popularity.

several years ago, the master brush which is now known as the *Apollo*. The *Apollo* was offered for sale only after exhaustive tests in the hands of practical master painters; we recommend it as fully embodying the most comprehensive knowledge of brush requirements.

The *Apollo*, like all the other leaders of our line, is vulcanized in rubber and made of pure black Chinese bristle of selected quality. In the larger sizes it is of exceptional merit for flowing either varnish, enamels, or shellac; the one and one-half inch size is an excellent sash or trimming brush.

Our *XXX China*, which is probably one of the best known styles of flat varnish brushes, is made of care-

fully selected black Chinese bristle, and since it is vulcanized in rubber can be used without danger of shedding in any vehicle that will not actually destroy the rubber. It is a brush thoroughly established by years of continued success.

Excellent sash or trim brushes of either flat or oval style, as desired, are offered in the *Master Painter* and *Tycoon* sash. Both are vulcanized in rubber, and the latter, which is oval, is made with a special seamless tubular steel ferrule which will not split.

While unquestionably the use of Chinese bristle in paint or varnish brushes has been completely justified, brushes for calcimine, however, require bristle of a heavier texture and



Oval Varnish Brush Construction

To the left is sectional view of a solid Oval Varnish Brush with plan of block in larger scale, showing separating pegs. In the center is an open center Oval Varnish Brush, and, at right, a sectional view showing its construction.

PITTSBURGH PLATE GLASS COMPANY



Preferred by Those Who Know Good Varnish Brushes

The XXX China and Apollo Flat Varnish Brushes; the Master Painter Flat Sash or Trim; the Winner Black and Tycoon Oval Sash Brushes.

larger flag to maintain the necessary elasticity and carry the required amount of calcimine.

For many years there has existed a marked preference for white or yellow bristle in such brushes, and as the difference in cost between white, or yellow, and gray Russian bristle was small, many flat calcimine brushes were made entirely of white bristle, or yellow cased with white.

With the shortage of Russian bristle, developed during the war, and a greater demand for the yellow and white bristle for other purposes, the difference in cost between the white and yellow, and the gray became so great that we do not believe the best interests of the calciminer are served by making these brushes of either all white or white and yellow stock.

Obtained from the same kind of swine, the several colors of Russian bristle are similar in texture

and elasticity; no color has advantages for calcimine brushes which the others have not. We, therefore, with the belief that we are providing the most efficient brushes, and brushes that still

make for economy of the user, recommend to the calciminer our *Superfine* and *Master Painter*, both brushes made of gray bristle with a heavy yellow casing, and both made of the very finest qualities of bristle that are to be obtained.

No painter's kit is complete without a suitable duster. The *No. 26 Stranglehold* provides an inexpensive, thoroughly practical duster which is guaranteed not to shed. Its construction is that used in our Dutch calcimine brush.

Calcimine brushes of the so-called "Dutch" types are almost exclusively used in the Western part of this country.

With a thorough knowledge of the needs of the trade and the serv-



No. 26 Stranglehold Painter's Duster

The Guarantee: "If it sheds a knot within six months, we will give you another brush."

MERCHANDISING BRUSHES

ice expected of such a brush, after much experimenting we introduced the *Stranglehold* family of calcimine brushes.

These brushes carry more stock than can be put into the same size brush of other construction.



(A) The Super-fine Flat Calcimine Brush, a great favorite with users of the flat style.



(B) *Stranglehold* Calcimine. This is a development of the Pittsburgh Plate Glass Co. Insert shows the method of construction.

The bristle is vulcanized into a solid rubber block which, of course unaffected by water, will not warp or split.

The bristle is set in knots for the well-known advantages of this style of setting. Because of its compactness this brush will wear much closer to the block than any other calcimine brush without becoming stubby.

If it sheds a knot in six months we will give you another brush. It is more costly than other Dutch types, but it is by far the most economical brush made. It is manufactured in various sizes and lengths of bristles.

The construction of these brushes is clearly shown in the illustration.

To those calciminers who prefer a Dutch brush with the bristle set in rows instead of knots, we offer our latest development, the *Amsterdam*. In

this brush, as in the *Stranglehold*, only Russian bristle of the highest quality is used. The bristle is vulcanized in rubber. The brush, bound with a protective steel ferrule, is designed to combine compactness, strength, and comfortable balance with the greater calcimine capacity; it also is made in various sizes and lengths.

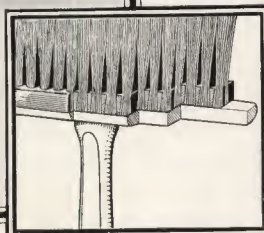
With the growth of the motor-car industry has come a steadily increasing demand for dependable brushes for automobile painting.

This Division maintains a soft hair brush factory which meets every possible need of the most exacting—in color, flowing, striping, and all the other special brushes of the soft hair trade.

In this plant every sort of soft hair brush for the artist, the signwriter, and the letterer is made in a distinctly American way; it produces brushes to satisfy the most critical.

With the introduction by the paint and varnish manufacturer of many specialties for household and non-professional use, there has followed a corresponding demand for brushes to apply these finishes.

Unfortunately too little consideration has been given to



Types of Calcimine Brushes

(C) The new *Amsterdam* Continuous Row, Dutch Calcimine Brush.



these tools for the amateur, too little consideration to the thought: "*The brush—as important as the paint or varnish.*"

Good paint cannot be applied successfully with poor brushes. Every dealer should realize this and so instruct his clerks that suitable

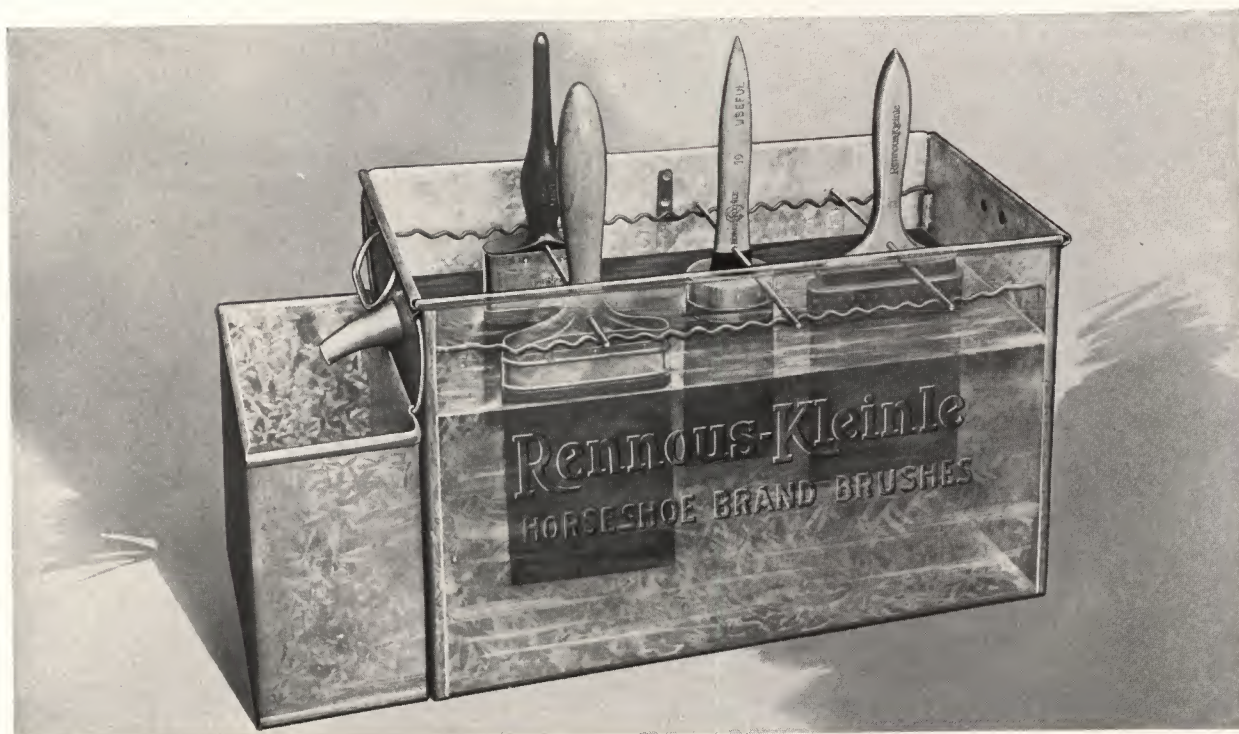
PITTSBURGH PLATE GLASS COMPANY



Horseshoe Brand Brushes are Packed for Protection

Nearly all bristle brushes are individually wrapped, the wrappers of the small brushes fastened with rubber bands, the larger ones are tied with string. The brushes are then packed in boxes of convenient size. Soft hair brushes are packed in papers of one-half dozen brushes, two papers in a box. The boxes are distinctively labeled in two colors; these boxes are then packed in strong wooden cases, which are bound with metal strips, locked, and sealed for shipment.

MERCHANDISING BRUSHES



The Rennous-Kleinle Brush Keeper

Not only does this keeper give ample protection to the brushes, but keeps the bristle straight and the oil at a constant level at all times.

brushes will be sold with every paint and varnish product.

We do not believe it necessary for the average paint dealer to carry a line of great variety; on the contrary, we suggest a small line of brushes carefully selected to meet his trade requirements. This class of trade being less likely to exercise proper care of brushes when not in use, we recommend the vulcanized in rubber lines here illustrated.

As manufacturers of thousands of kinds of brushes we are able to meet every requirement for the application of paint or varnish in whatsoever field of industry or art they are used.

Complete stocks of the most frequently used brushes are to be found in our many Warehouses. All inquiries covering special requirements directed to any of these Warehouses will be answered promptly through the proper channel.

No treatise on brushes would be complete without reference to their care, both while in stock and after they have been put into use.

Improvement in the setting material used makes brushes nowadays less liable to damage than formerly, but reasonable care should be ex-

ercised to prevent their drying out and being damaged by moths.

The best damage preventive is a frequent stock turnover.

A carefully selected short line of brushes purchased under our plan of merchandising will insure better brushes to the consumer, at better prices, and at a far greater profit to the dealer than ever was possible under the old method. Our system of displaying stock can be followed with profit by every brush dealer. Let us tell you about it at your convenience.

It has been said that more brushes are destroyed by improper care after being put into service than ever are worn out. The statement carries much truth. Strange to say, painters themselves are great offenders and do not give their brushes the care their cost and good workmanship demand.

Never put paint or varnish brushes into water, either before or after they are put into service; water makes bristle soft and moppy; it spoils the best of brushes.

Oval brushes can be tightened by pouring a little water on the butt end of the handle, in the

PITTSBURGH PLATE GLASS COMPANY

center of the brush, allowing it to be absorbed by the butts of the bristle; but the brush should never be submerged. We illustrate on the preceding page a brush keeper which insures perfect protection for the brushes and which maintains the proper level of oil at all times.

After service, suspend your brushes in raw linseed oil, free of the bottom of the container, deep enough to allow the oil to reach above the bottom of the band or strap.

Varnish brushes should be kept in a separate container and thoroughly washed out in some paint solvent, such as turpentine or Leptyne, before being put into varnish again.

Thoroughly wash out your calcimine and whitewash brushes and hang them, bristles downward, to dry after use.

Never put a damp brush into work; you will find it lifeless.

Flowing brushes should be suspended free from the bottom in varnish, color brushes in turpentine, in a dust proof container.

Lettering and striping brushes are best kept by cleaning them and flattening them out in non-drying oil on a piece of glass.

Naphthaline is the best moth preventive and should be used freely on all brushes kept in stock, with the single exception of pitch-set brushes—naphthaline will destroy pitch.

All Rennous-Kleinle brushes are made with the purpose for which they are to be used definitely in mind. They are finished to present the best sales appeal, and are sturdily and attractively boxed, as high class merchandise should be.



Soft Hair Brushes

Miscellaneous soft hair brushes of Pittsburgh Plate Glass Co. manufacture. These brushes are all favorites in their field.

LIST OF BRUSHES WITH SPECIFICATIONS

PARTIAL LIST OF HORSESHOE BRAND BRUSHES WITH SPECIFICATIONS

LEATHER BOUND OR STUCCO TYPE FLAT PAINT BRUSHES

All Leather Bound Flat Paint brushes are made of pure black Chinese bristle. No adulterations will be found in them. They are set with cement, bound with black leather on natural varnished handles, and striped with black. Six brushes are packed in a box.

Width.....inches	3	3½	4	4½	5
Length Clear.....inches					
Extra Black Stucco.....	4¼	4½	4¾	5	5
Master Painter Stucco.....	4¼	4½	4¾	4¾	4¾
Tycoon Stucco.....	3¾	4½	4¾	4¾	4¾
Duchess Stucco.....	3¾	4¾	4½	4½	4½

METAL BOUND FLAT PAINT BRUSHES

Metal Bound Flat Paint brushes are made of pure black Chinese bristle, vulcanized in rubber, and equipped with natural varnished handles. Six brushes are packed in a box.

Width.....inches	2½	3	3½	4	4½	5	6
Length Clear.....inches							
Best Black.....	4½	4¾	4¾	4¾	4¾	4¾	4¾
Master Painter.....	3¾	4	4¼	4½	4¾	4¾	4¾
Arkay.....	3½	3¾	3¾	3¾	4	4¼	4¼
Black Filler.....	2¾	2¾	2¾	3¼	3¾	3½	3½
Leader.....	2¼	2½	2¾	3	3¼	3½	3½
Crackerjack (cement set)	2½	2¼	2¼	2½	2¾	2¾	2¾
Service.....							3¾
345 Steelbound (Stucco Type).....	4¼	4½	4¾	5	5	5	5

OVAL VARNISH BRUSHES

USEFUL

Pure black Chinese bristle, open center, elastic and topky, cement set, nickel ferrule, bridled or unbridled, natural varnished beaver-tail handle, black stripe. Packed six in a box.

Size.....	6	7	8	9	10	12
Width.....inches	2½	2¾	2¾	2¾	2¾	2¾
Length Clear.....inches	3¾	4½	4¾	4½	4¾	4¾

MIKADO

Similar in descriptive detail to the Useful, but a much smaller and lighter brush.

Size.....	1/0	2/0	3/0	4/0	5/0
Width.....inches	1½	1½	1¾	1¾	1¾
Length Clear.....inches	2¾	3	3½	3¾	3¾

Size.....	6/0	7/0	8/0	9/0	10/0
Width.....inches	1½	2	2½	2½	2½
Length Clear.....inches	3½	3¾	3¾	3¾	3¾

CHESAPEAKE

An excellent brush of the flat oval type, pure black Chinese bristle, solid, vulcanized in rubber, nickel ferrule, natural varnished flat oval handle, striped black. Packed six in a box.

Size.....	1	2	3
Width.....inches	2¼	2¾	2¾
Length Clear.....inches	3½	3¾	3¾

TRUMPS

Identical in detail with the Chesapeake, except smaller dimensions. Packed six in a box.

Size.....	Spades	Clubs	Diamonds	Hearts
Width.....inches	1½	1½	1½	2½
Length Clear.....inches	2¼	2½	2¾	3

FLAT VARNISH BRUSHES

The following Flat Varnish brushes are made of pure black Chinese bristle, chiseled, and vulcanized in rubber. They have nickeled ferrules and natural varnished handles, and are packed twelve in a box. In the three-inch and larger sizes the Arcadia and Spar are packed six in a box. The Black Bird and Fan Tan are cement set, tin bound, and have plain unvarnished handles.

Width.....inches	1	1½	2	2½	3	3½	4
Length Clear.....inches							
Arcadia.....	2¼	2½	2¾	3	3½	3¾	3¾
Apollo.....	2½	2¾	3½	3¾	3¾	3¾	3¾
XXX China.....	2¾	2¾	2¾	3½	3½	3½	3½
Spar.....	2¼	2¼	2¾	2¾	2¾	2¾	2¾
Chang.....	1¾	2	2¼	2½	2¾	2¾	2¾
Four-Fifty.....	1¾	1¾	2½	2¼	2¼	2¼	2¼
Black Bird.....	1½	1½	1½	2	2½	2½	2½
Fan Tan.....	1¾	1½	1½	1½	1½	1½	1½

SASH BRUSHES

TYCOON (OVAL)

Pure black Chinese bristle, chiseled, vulcanized in rubber, seamless oval nickel ferrule, natural varnished handle. Packed twelve in a box.

Size.....	2	3	4	5	6
Width.....inches	1½	¾	1¾	1¾	1
Length Clear.....inches	1½	1½	1¾	1¾	1½
Size.....	7	8	9	10	12
Width.....inches	1½	1½	1¼	1¾	1½
Length Clear.....inches	2	2½	2¼	2¾	2¾

MASTER PAINTER (FLAT)

Pure black Chinese bristle, double thick, chiseled, vulcanized in rubber, nickel bound, natural varnished long half-round handle. Packed twelve in a box.

Width.....inches	1	1½	2	2½
Length Clear.....inches	2	2½	2¾	2½

DUTCH CALCIMINE BRUSHES

STRANGLEHOLD

Gray Russian bristle of finest quality, vulcanized in a solid hard-rubber block, natural varnished block and handle. Packed one in a box.

Size.....	1-S	3-S	5-S
Dimensions.....inches	7¾x2¾	7¾x2¾	7¾x2¾
Length Clear.....inches	4¼	4½	5

CONTINUOUS ROW CALCIMINE BRUSHES

A new type of Dutch Calcimine construction described and illustrated on page 149. These brushes are made of gray Russian bristle.

Size.....	10	20	30	40	50	Block
Length Clear.....inches						
Appingedam.....	..	..	4½	4¾	5	2¾x7¼
Vreendam.....	4	4¼	4½	4¾	5	1¾x7¼
Amsterdam.....	..	..	4½	4¾	5	2¾x7¼
Rotterdam.....	4	4¼	4½	4¾	5	2¾x7¼
Vandam.....	4	4¼	4½	4¾	5	1¾x7¼

PITTSBURGH PLATE GLASS COMPANY
PARTIAL LIST OF HORSESHOE BRAND BRUSHES
WITH SPECIFICATIONS — Continued

FLAT CALCIMINE BRUSHES

SUPERFINE

Pure yellow Russian bristle casing, middle of pure gray Russian bristle, vulcanized in rubber, bound with galvanized iron, unvarnished poplar handle. Packed three in a box.

Width.....inches	7	8
Length Clear.....inches	5½	5¾

MASTER PAINTER

Pure yellow Russian bristle casing, middle of pure gray Russian bristle, similar to but of lighter weight than the Superfine.

Width.....inches	7	8
Length Clear.....inches	5¼	5½

BOSS

Similar to but lighter than the Master Painter.

Width.....inches	7	8
Length Clear.....inches	5	5¼

NICKEL PLATE

Pure black Chinese bristle, stiff and heavy, vulcanized in rubber, nickel bound, natural varnished handle. Packed three in a box.

Width.....inches	6	7	8
Length Clear.....inches	4¾	4¾	4½

BULL DOG

Pure yellow Russian bristle, vulcanized in rubber, nickel bound, natural varnished handle. Packed six in a box.

Width.....inches	6	7	8
Length Clear.....inches	4	4¼	4½

MIKADO

Pure black Chinese bristle, cement set, nickel bound, natural varnished handle. Packed six in a box.

Width.....inches	6	7	8
Length Clear.....inches	3¾	4	4¼

BUSTER

Pure black Chinese bristle casing, middle of black Chinese bristle and horsehair, cement set, nickel bound, natural varnished handle. Packed six in a box.

Width.....inches	6	7	8	9
Length Clear.....inches	3¼	3½	3¾	4

WHITEWASH BRUSHES

MIKADO

Pure black Chinese bristle, extra row of bristle set in center, cement set, nickel bound, natural varnished block, black stripe. Packed six in a box.

Width.....inches	6	7	8
Length Clear.....inches	3¼	3½	3¾

NICKEL PLATE

Similar in detail to the Mikado.

Width.....inches	6	7	8	9
Length Clear.....inches	2½	2¾	3	3½

BLACK DIAMOND

Pure black Chinese bristle casing, middle of Chinese bristle and horsehair, cement set, nickel bound, natural varnished block. Packed six in a box.

Width.....inches	6	7	8
Length Clear.....inches	2¼	2½	2¾

FLAT PAINTER-DUSTERS

26 STRANGLEHOLD

Pure black Chinese bristle casing, middle mixture of black Chinese bristle, horsehair and fiber, vulcanized in rubber, natural varnished handle. Packed six in a box.

Size.....26	Width...in. 4¼	Length Clear.in. 4¼
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ROUND PAINTER-DUSTERS

50 STRANGLEHOLD

Pure white French bristle casing, middle of pure yellow Russian bristle, vulcanized in rubber, natural varnished handle. Packed six in a box.

Size.....50	Diameter..in. 2½	Length Clear...in. 4
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ROYAL COACH

Pure white Russian bristle casing, middle pure white French bristle, pitch set, natural varnished handle. Packed six in a box.

Size.....10	Diameter..in. 2¾	Length Clear...in. 4
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WINNER

Pure black Chinese bristle casing, middle mixture of black Chinese bristle, horsehair and fiber, other details identical with the Royal Coach.

Size.....2	Diameter..in. 2¾	Length Clear..in. 3¾
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The brushes listed above are a partial list of the standardized Horseshoe Brand line, manufactured and distributed by the Pittsburgh Plate Glass Company. A complete catalogue can be obtained from the nearest warehouse.

**PAINTERS, PAPERHANGERS, AND GLAZIERS
TOOLS, EQUIPMENT, AND SUPPLIES**



A Row of Dry-Color Tubs in the Milwaukee Factory



PAINTERS, PAPERHANGERS, AND GLAZIERS TOOLS, EQUIPMENT, AND SUPPLIES

FIFTY years ago, even twenty-five years ago, the tools used by mechanics in every craft were comparatively simple in design and construction and limited in variety. It was not uncommon in those days to find the exacting workman fashioning his own instruments in order that he might perform his work with greater ease and skill.

Yankee inventive genius has ever sought to devise ways and means for the elimination of unnecessary motions and for lightening labor. Enterprising manufacturers quickly embraced the opportunities offered in the production of tools to meet the requirements of the artist and the mechanic.

Thus, where formerly but one shape of instrument was manufactured for the performance of a certain piece of work, today many and varied shapes of that type are available, and the mechanic may select from the numerous offerings such tools as suit his particular need or fancy.

The average workman is very critical in the appraisal of a tool: the material must be

of good quality and it must be of a design which he feels will enable him to perform his work with speed and satisfaction.

Many improvements in tools and appliances used by the painter, paperhanger, and glazier have been advanced by the workmen in those lines, and have been adopted as soon as their practicability was established. For example, the original measuring rule was made of one piece of seasoned wood, and later reinforced with brass bindings and edges; today, rules are built in laminated construction, inset in brass, and are practically impervious to atmospheric influence, retaining their alignment indefinitely. Valuable cutting and trimming devices have been developed, reducing labor and increasing precision. Devices which make for safety and convenience are constantly being perfected.

The illustrations in the following pages represent the latest productions in tools, appliances, and supplies used by the painter, paperhanger, and glazier.



SUNDRIES

RECOGNIZING the importance of Sundry items to the success of painting operations, provision has been made to supply the trade through our distributing Warehouses with a select line of Calcimines, Cold Water Paints, Dry Colors, Shellacs, Glues, Sandpaper, and other Abrasives; Steel Wool, Sponges, Bronzes, and other paint sundries.

Advantage has been taken of many years' experience to eliminate unnecessary or duplicating items, while retaining all the essentials, so that we are able to present on the following pages a compact list of miscellaneous articles used and sold in connection with Paints, Varnishes, Enamels, Stains, and other finishing materials.

SUNDRIES

CALCIMINES AND COLD WATER PAINTS

KALKOMO WALL FINISH

Kalkomo is the ideal calcimine for the decoration of interiors. It gives that soft, velvety, water-color effect so essential to refined surroundings and can be applied on plaster walls, wood, or wallboard.



Kalkomo is scientifically prepared from the finest washed and floated whiting, and the very best hide-stock glue. It is instantly soluble in cold water. One pound of Kalkomo when properly mixed will cover from 60 to 120 square feet, according to the surface.

Kalkomo is made in white, attractive tints, and rich deep colors, all of which are intermixable, so that any desired shade may be produced.



It is adaptable to the individual decorative requirements of any class of building.

5-pound packages (20 packages to the case)
100-pound drums or kegs
350-pound barrels

KALKOMO FRESCO COLORS

(Dry Sized)

To be mixed with cold water for deep or solid color effect, or for tinting White Kalkomo Wall Finish or intermixing to produce other tints.

Kalkomo Fresco Colors are prepared in dry powder form, with the right amount of size or binding material. Non-poisonous.

21½-pound packages	50-pound boxes
5-pound packages	100-pound kegs
25-pound boxes	350-pound barrels



MILL WHITE

Soluble in cold water. Especially adapted to finishing interiors of factories, mills, warehouses where the clean, sanitary, and improved light-reflecting effect is desired without the use of an oil paint (see Alba-Lux, page 60).

Six pounds properly mixed with cold water makes one gallon of paint for application with brush or spraying machine. One pound covers from 40 to 60 square feet, depending upon surface conditions.

50-pound drums
100-pound kegs
400-pound barrels

GRANITITE COLD WATER PAINT

In white and tints, for exterior and interior use: warehouses, factories, fences, docks, walls in areaways, light shafts. Dry powder for mixing in cold water, two parts of Granitite to one part water. One pound covers from 40 to 75 square feet, depending upon surface. Strongly adhesive, for application with brush or spraying machine. Washable, will not rub, peel, or flake off, weather-proof and fire-retarding.

25, 50, and 100-pound drums or kegs
400-pound barrels

PITTSBURGH PLATE GLASS COMPANY

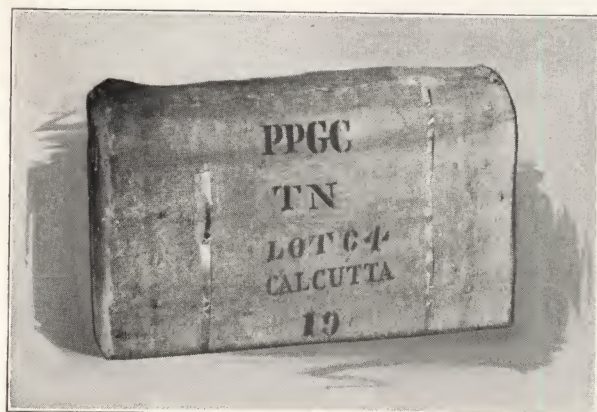
DRY SHELLAC AND SHELLAC VARNISHES

SHELLAC

Shellac or lac is a product of the East Indies, obtained especially from Bengal, Siam, and Assam. It is of interest that the crude shellac is the product of countless insects, which fasten themselves upon the trees that yield the sap on which they live. These minute insects exude a secretion resulting from the absorption of the sap, which gradually covers their entire body.

Thus a hard resinous substance is formed on the branches of the trees by myriads of these parasites. The twigs are gathered with their living inhabitants in June and November. The secretion is known in commerce as "stick lac." It is melted, strained, and spread out in thin layers and comes to us as shellac in flake form. Shellac varies in color from a dark amber to an almost pure black.

Shellac has many uses. It is an important factor in the making of phonograph records, shoe polish, felt hats, special cements, and insulating varnishes. When dissolved in alcohol, shellac is most widely used as a first coater before the application of varnish or wax, particularly when rapid drying is a requisite, and for sealing knots before painting. It dries quickly to a hard, brittle, and glossy surface. Shellac does not possess the qualities required for a final or finishing varnish, and because of its brittleness is not suitable for use on floors or other surfaces exposed to hard wear.



The different grades and kinds of the orange shellac gum are known to the trade by "marks." To insure the receipt of shellac of uniform quality and of the grade or kind for the purpose intended, the "marks" should be specified when ordering.

U. S. Standard T. N.	V. S. O.
Pure T. N.	D. C.
Superfine	Diamond 1
A. C. Garnet	

In the original import packages of 164 pounds each, and in smaller quantities as desired.

The T. N. and Superfine are the grades generally used in connection with painting and varnishing; the V. S. O. and D. C. for special finish such as mirror back paint and for pattern-makers' use.

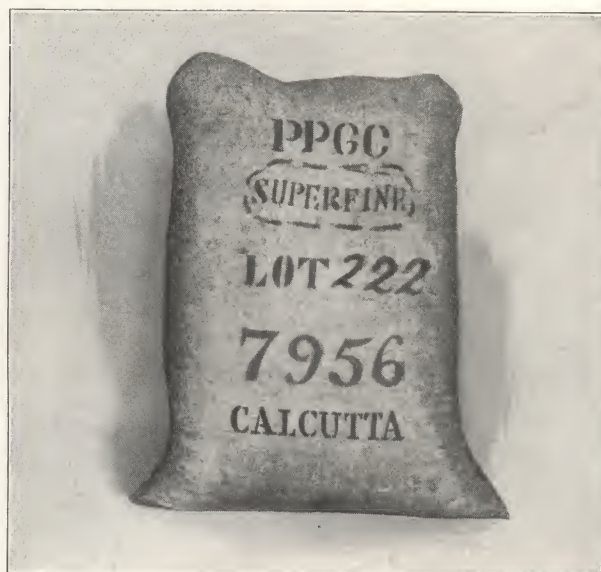
White shellac is the result of bleaching the orange gum; in barrels of about 400 pounds, and in smaller quantities as desired.

Bone Dry Bleached

Also for special trade:

Fresh Ground

Hanks



SHELLAC VARNISHES

Orange and White

Gum Shellac is dissolved or cut in denatured alcohol—four to four and one-half pounds gum to the gallon for general finishing and five pounds for heavy-bodied shellac for pattern-makers and special purposes.

Gum Shellac prepared in this way is known as Shellac Varnish and sometimes is called Spirit Varnish. Shellac Varnish may be thinned with 183 proof denatured alcohol.

Supplied in two grades:

Pure Denatured Alcohol, Orange
Pure Denatured Alcohol, White
Denatured Alcohol Orange Compound
Denatured Alcohol White Compound

1/8-pint bottles
1/4-pint bottles
1/2-pint bottles
1-pint bottles
1-quart bottles

1/2-gallon cans
1-gallon cans
5-gallon cans
25-gallon 1/2-barrels
50-gallon barrels

SAND, EMERY, AND GARNET PAPER—OTHER ABRASIVES

SANDPAPER

The general term "Sandpaper" means a fabric of paper or cloth, or a combination of both, on which a crushed and graded abrasive is firmly glued. Each variety of sandpaper is assigned a trade name, usually the name of the abrasive with which it is coated. Thus paper coated with flint is known as flint paper; cloth covered with emery is known as emery cloth, etc. The abrasive or sand used in coating consists of natural or artificial crystals, crushed, cleaned, and graded. The first abrasive paper ever used to any extent commercially was coated with ground glass. The substitution of ground flint for ground glass proved so superior that it rapidly superseded glass paper. Flint crystal rock, from which flint paper, otherwise known as sandpaper, is made, is a natural mineral; largely silica, with a small percentage of lime, oxide of iron, water, and carbon, and when crushed into small grains it resembles ground glass.

As the flint crystal rock is cleaned and crushed by machinery, it is put through sifting machines and successively sifts through various screens, each screen selecting a certain size grit and discarding the other sizes. Re-grading machines take the selected grits and again pick out the exact size, the finer grits being sifted through silk screens. In this manner the grains are prepared for the machine which applies them to the paper or cloth backing. Only tough-fibered paper is used. It varies in weight to correspond with the size of the grain with which it is to be coated.



The grits are known by number: 000 (finest), 00, 0, $\frac{1}{2}$, $1\frac{1}{2}$, 2, $2\frac{1}{2}$, 3 (coarsest).

The raw paper, while in course of manufacture, is imprinted with the brand, grit number, etc., and is reeled from the machine in large rolls and stored until properly seasoned, after which it is taken to the sandpaper-making machine, where a coat of the best hide stock glue at the proper consistency is applied; the abrasive grains are then accurately fed and spread over the glued surface of the paper, which then passes

on in festoons to traveling hangers, and when partially dried reaches the sizing machine, by which a second coat of glue is applied, the paper continuing to travel on the hangers through the drying room, after which it is wound into large rolls, seasoned, and, finally, reaches the cutting room.

For hand work or ream goods, Gibraltar brand, first quality, are cut into sheets 9 x 11 inches, and the Giant brand, $8\frac{3}{4}$ x $10\frac{1}{2}$ inches; tied into quires of 24 sheets and assembled in packages of 10 quires; two of the 10-quire packages make one ream of 480 sheets. The Giant brand differs from the Gibraltar in the backing, glue, and size, the grit being the same.

Roll goods, although of the same grading as reams, are made on much heavier backing and with a heavier coating of glue and abrasives. This product is mainly used on sanding machines, and is manufactured in various widths, packed in 50-yard rolls.

EMERY AND GARNET PAPER

Garnet paper coated with crushed and graded garnet crystals is superior to flint for use on hard woods. Garnet is mined in the same manner as flint, the best source of supply being in the Adirondack mountains.

Emery is a natural ore and has been used for many years in the polishing of metals. Our emery cloth and paper are coated with the best grade of genuine Turkish emery.

OTHER ABRASIVES

Abrasive cloth (artificial emery), which is especially adapted to heavy finishing work on tough and hard metals, possessing unusual endurance and cool-cutting qualities, is made from Bauxite clay, found in Austria and Georgia, is converted by electrical furnaces into aluminum oxide, and is generally known as an abrasive with an aluminum base.

Carbonite cloth (artificial emery) is recommended for use on soft cast metals of short fiber. It possesses a very hard, sharp edge, and is a rapid cutter. The grain is made from salt, sand, coke, and sawdust, properly fused in an electric furnace, becoming carbide of silica.

Cloth, such as garnet, flint, emery, crocus, abrasite, and carbonite, is manufactured by the same process as flint paper, and is supplied in either reams 9 x 11 inches or rolls of various widths in 50-yard length. The cloth used as a backing for our abrasive is a strong, flexible, woven cotton fabric known in the trade as "drills."

Finishing papers are made on thin paper with a light, smooth coating, and are furnished in both single and double-face; garnet or flint, reams or rolls. The double-face is coated on both sides of a two-ply paper so made that the plies can be easily separated to give two sheets each on a lighter backing than could be used for "single-face." Four hundred and eighty sheets to a ream of single-face and two hundred and forty sheets to a ream of double-face paper.

PITTSBURGH PLATE GLASS COMPANY

STEEL WOOL, PUMICE STONE, GLUES, FELT

STEEL WOOL

Used instead of sandpaper and other abrasives in preparing surfaces for finishing. For removing, in connection with paint and varnish remover, old coats of paint, enamel, and varnish before refinishing. Steel Wool cuts quickly and uniformly, and because of its pliability is especially adapted for work on curved or uneven surfaces.



Steel Wool No. 00 corresponds to the grit of No. 000 sandpaper.

Steel Wool No. 0 corresponds to the grit of No. 00 sandpaper.

Steel Wool No. 1 corresponds to the grit of No. 0 sandpaper.

Steel Wool No. 2 corresponds to the grit of No. 1/2 and No. 1 sandpaper.

Steel Wool No. 3 is for work which would require No. 11/2 or No. 2 sandpaper.

One-pound rolls, paper packages, 25 packages to the carton.

Household Sizes

In three grades: No. 0 Fine, No. 1 Medium, No. 3 Coarse.

Large size—in cartons, 1 dozen in a carton.

Small size—in cartons, 1 dozen in a carton.

STEEL SHAVINGS

Coarser than Steel Wool, in two grades: Fine and Medium. 1-pound rolls, paper packages, 25 packages to the carton.

RUBBING FELT

Used with pumice stone for rubbing down varnish coats, and with rotten stone for polishing. Supplied in sheets of 1/4, 3/8, and 1/2-inch thicknesses; original sheets are 36 inches square. Sheets will be cut to supply demands for smaller sizes.

White, compressed hard

White, soft texture

PUMICE STONE

Pumice Stone is imported from Italy in lump, or ground. That which is imported in the lump and ground in this country, is known as American Ground Pumice, and is the most satisfactory because of its uniform fineness and freedom from grit and foreign materials. Used for water-rubbing varnished and enameled surfaces, and as an abrasive.

No. FFF. Very Fine Powder

No. FF. Extra Fine Powder

No. F. Fine Powder

No. 00. Fine Medium Powder

No. 0. Medium Powder

No. 1/2. Medium Coarse Powder

No. 1. Coarse Powder

In bags, barrels, 100 and 50-pound drums, and in bulk as required; also selected Lump Pumice Stone.

ROTTEN STONE

For oil-rubbing and polishing varnished and enameled surfaces. Selected grade in very finely powdered form.

In 100 and 50-pound drums, and, in bulk, any quantity.

RUBBING STONE

For water-rubbing rough surfaces and for cleaning. In bricks of about 1 pound each. Soft and Medium Hard.

GLUES

Liquid Glue

Used for hanging burlap, for cabinet work, and for general household use.

Ounce bottle, 1 dozen in display box

Gill can, 1 dozen in display box

1/2-pint can, 2 dozen in case

Pint can, 1 dozen in case

Quart can, 1 dozen in case

1/2-gallon can, 1/2 dozen in case

Gallon can, 1/2 dozen in case

5-gallon can, boxed

DRY GLUES

In barrels; 100 and 50-pound drums, and in smaller quantities.

For Fresco Work

Clear Gelatine Glue, Thin Cut Clear Hide Glue.

For Calcimining

Thin Cut White Flake Glue, Extra White Ground Glue.

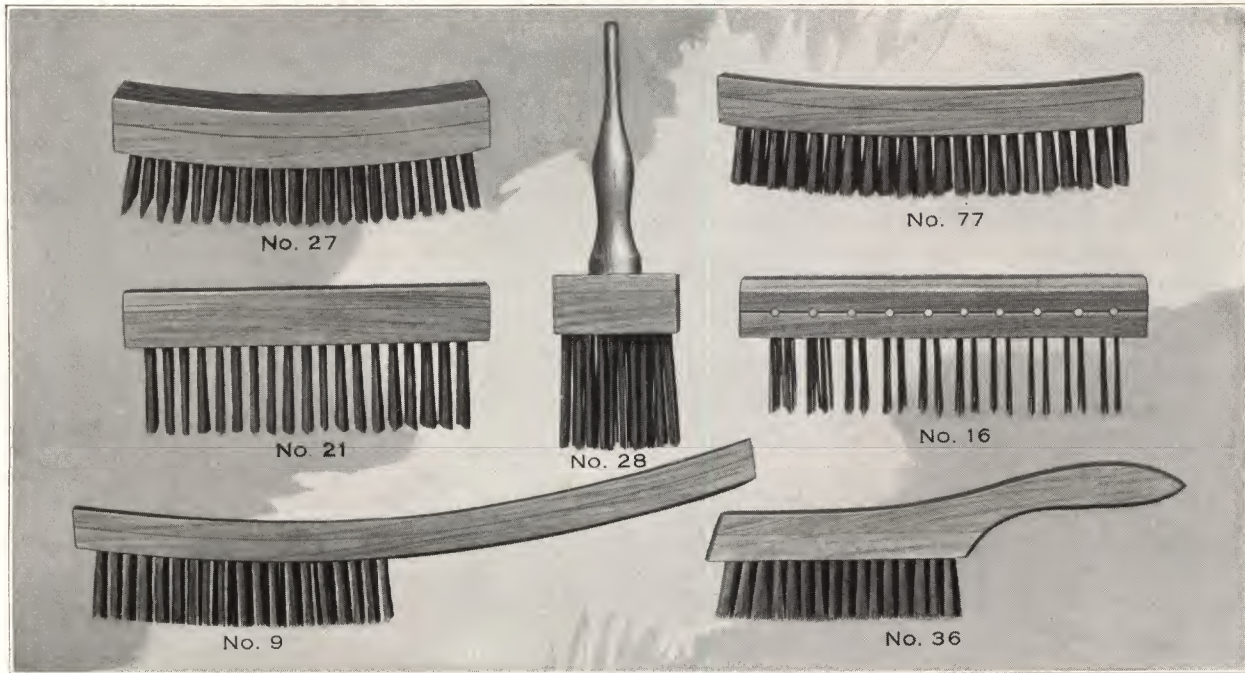
For Sizing

Light Amber Sizing Glue.

For Cabinet Work

Flake Cabinet Glue, Noodle Cabinet Glue, Ribbon Cabinet Glue, Sheet Cabinet Glue.

SUNDRIES



STEEL WIRE BRUSHES

These brushes are made of fine tempered Steel Wire in solid block. They are used for removing old paint, varnish, wax, or other finishes, and also in connection with Paint and Varnish Remover.

Steel Wire Brushes are also efficient in removing loose or scaling paint, cleaning radiators and other metal work, preparatory to painting or finishing.

Painter's Scrub—Curved Back, Round Wire

	Rows	Block	Length Wire
No. 27.....	7 x 21	2 $\frac{1}{4}$ x 7	1 $\frac{1}{4}$ "
No. 77.....	9 x 21	2 $\frac{3}{4}$ x 7	1 $\frac{1}{4}$ "

Painter's Scrub—Flat Back, Round Wire

	Rows	Block	Length Wire
No. 21.....	6 x 19	2 $\frac{1}{4}$ x 7	1 $\frac{3}{4}$ "

Butcher's Block—Flat Wire

	Rows	Block	Length Wire
No. 16.....	5 x 10	2 $\frac{5}{8}$ x 7 $\frac{1}{2}$	1 $\frac{1}{2}$ "

Painter's Duster—Round Wire

	Rows	Block	Length Wire
No. 28.....	6 x 10	1 $\frac{1}{8}$ x 2 $\frac{3}{8}$	2 $\frac{1}{4}$ "

Bent Handle Scratch—Round Wire

	Rows	Brush part	Length over all	Length wire
No. 9.....	3 x 19	6 $\frac{1}{2}$ "	14"	1 $\frac{1}{4}$ "

Shoe Handle Scratch—Round Wire

	Rows	Brush part	Length over all	Length wire
No. 36.....	4 x 16	5"	9 $\frac{3}{4}$ "	1 $\frac{1}{4}$ "

Steel Wire Brush Assortments

These are put up in attractively packed boxes for counter, window, or show-case display.



This assortment contains:

2	Brushes	No. 77
4	"	No. 21
2	"	No. 28
4	"	No. 9
4	"	No. 36
2	"	No. 16

Total contents 11 $\frac{1}{2}$ Dozen

PITTSBURGH PLATE GLASS COMPANY

SPONGES

THE supply of Sponges for the American market is obtained principally from the West Coast of Florida, the waters about the Florida Keys and the Bahama Islands, where the sponge fishers use modern diving armor and apparatus for clipping sponges from their moorings on the sea bottom. The catch is taken ashore, where, after thorough washing, the sponges, the skeletons of what had been bodies with animal life, are strung in bunches and are then ready for market.

After selections, made by the buyers on the ground, of such grades as meet the requirements of our standards, the sponges are packed for shipment to a central point, where they are again washed and freed from shells, fragments of coral, and other foreign matter, sorted as to size and clipped to form.

Sponges in bales of either 25 or 50 pounds are sold by the pound and the sizes specified indicate the number of pieces to the pound, as:

1/2, 2/3, 3/4, 6/8, 8/10, 10/12, 12/16, 16/20, 20/30; 6/8, for instance, indicating that from 6 to 8 sponges weigh one pound. Sold in full bales, gross weight, 3 per cent allowance for tare is made; in smaller quantities, net weight as desired.

"Forms" are original shapes, "Cuts" result from cutting the Forms into two equal pieces. Forms are preferred for the smaller and medium sizes of the better grades of wool sponges. Cuts are more serviceable in those sponges which grow to large sizes, such as the Bahama or Nassau Wool, the Florida Yellow, and the Velvet sponges.

SHEEP'S WOOL SPONGES

Florida Rock Island. Best grade, firm soft texture, compact; have great water-holding properties; best for automobile washing. Florida Key Wool, Cuba Wool, Bahama or Nassau Wool.

FLORIDA YELLOW VELVET SPONGES

Not so smooth as wool sponges, with larger apertures, and less capacity for holding water.

GRASS SPONGES

An inexpensive sponge for rough work on walls and for use in general cleaning.

NEPTUNE BRAND SPONGES

(In Cartons)

Especially selected, packed in display cartons as illustrated, sold by the piece—the most satisfactory way to handle sponges for resale—thoroughly washed and cleaned, air-dried, and bleached in the sun. Ready for use.

Identification Number	Pure Wool Sponges, Forms	Number of Pieces in Carton
P. W. 25		25
P. W. 35		25
P. W. 50		25
P. W. 75		12
P. W. 100		6
P. W. 150		6
P. W. 175		6
P. W. 200		6
P. W. 250		6

Pure Wool Sponges, Cuts

P. W. C. 45	.....	25
P. W. C. 75	.....	25
P. W. C. 125	.....	25
P. W. C. 150	.....	12
P. W. C. 200	.....	12
P. W. C. 225	.....	6

Pure Velvet Sponges, Cuts

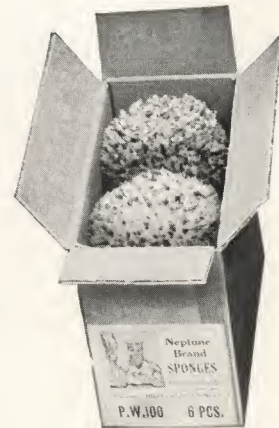
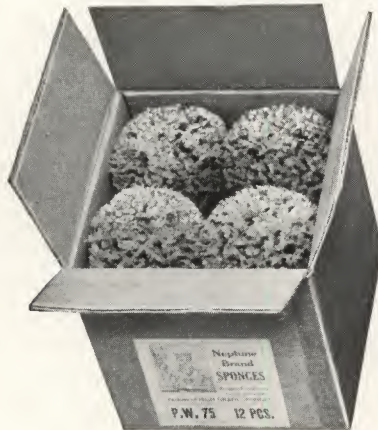
P. V. 25	.....	25
P. V. 50 a	.....	25
P. V. 50 b	.....	12
P. V. 75 a	.....	25
P. V. 75 b	.....	12
P. V. 75 c	.....	6
P. V. 100 a	.....	25
P. V. 100 b	.....	12
P. V. 100 c	.....	6

Pure Florida Yellow, Forms

P. Y. 10	.....	100
P. Y. 15	.....	100
P. Y. 25	.....	50
P. Y. 40	.....	50
P. Y. 60	.....	25
P. Y. 75	.....	25

The identification number is also the approximate retail selling price.

SUNDRIES

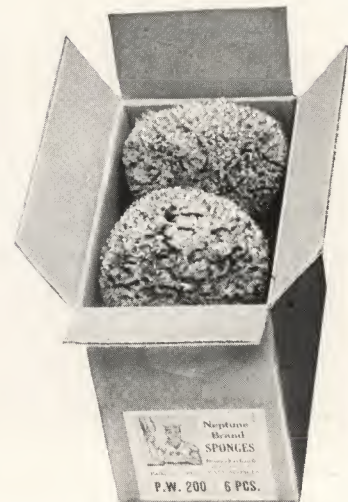
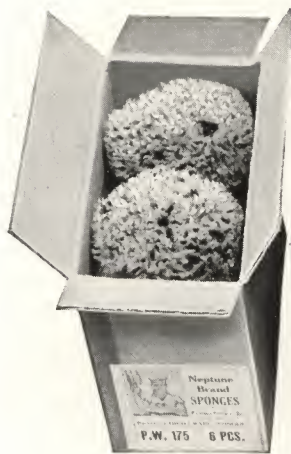


SPONGES

The method of packing Neptune Brand Sponges in cartons assures profitable handling of this commodity for the merchant and satisfaction to the customer.

Costs and retail prices are established on the value of the individual pieces.

Neptune Brand Sponges are thoroughly washed free from all foreign matter and bleached ready for use.



PITTSBURGH PLATE GLASS COMPANY



A Section in One of Our Dry Paint and Color Rooms

DRY PAINTS AND COLORS

WE are manufacturers of Dry Colors, producing chemically pure pigments in Reds, Yellows, and Greens. This insures uniformity of strength and color, and places us in a position to take care of the demand for this class of material.

We list herewith both chemically pure colors and dry paints, which are furnished in packages of all sizes and in any quantity.

LAMPBLACK

Lampblack is a deep black pigment consisting of pure carbon in a very fine state of division. Various grades are produced in the reduction of rosin pitch, oils, and fats.

The finest Lampblack is obtained in the combustion of oils and the better grades afford a pigment of great permanency and strength.

SUN-PROOF GERMANTOWN LAMPBLACK COMMERCIAL LAMPBLACK

Both grades packed for the trade in 1-pound, half-pound, $\frac{1}{4}$ -pound, and $\frac{1}{8}$ -pound packages, 50 pounds to the carton. Also in smaller quantities.

OTHER COMMERCIAL BLACKS

Drop Black	Graphite
Bone Black	Swedish Black

In barrels, drums, and smaller packages as required.

BLUES

P Brand	Chinese Blue
PP Brand	Cobalt Blue
PPG Brand	K.K. Prussian Blue
PPGC Brand	Pure Prussian Blue

In barrels, 28-pound boxes, and smaller packages as required.

SUNDRIES

DRY PAINTS AND COLORS

BROWNS

American Umber, Raw
American Umber, Burnt
American Sienna, Raw
American Sienna, Burnt
Genuine Turkey Umber, Raw
Genuine Turkey Umber, Burnt
Genuine Italian Sienna, Raw
Genuine Italian Sienna, Burnt
Vandyke Brown
Spanish Brown
Bismarck Brown

GREENS

C.P. Chrome Green (Light, Medium, Dark)
K.K. Chrome Green (Light, Medium, Dark)
Alfalfa Green (Light, Medium, Dark)
Lime Proof Green (Light, Medium, Dark)

REDS

Indian Red
Turkey Red
English Rose, Lake
Navajo Red (Light, Dark)
Toluidine Red, D.S. 272
K.K. Vermilion, D.S. 8
Tuscan Red
English Rose, Pink
American Vermilion
Corona Red, D.S. 613
Gobbler Vermilion, D.S. 71
Genuine English Vermilion, Pale and Deep
Red Lead (Oxide)

YELLOWS

K.K. Chrome Yellow (Light, Medium, Dark)
C.P. Chrome Yellow (Light, Medium, Dark)
Corona Yolk Yellow (Light, Medium, Dark)
Litharge (Lead Oxide)
Orange Mineral (Lead Oxide)
Dutch Pink

OCHRES

American Ochre
Double Washed Ochre
Buff Ochre
French Imported Ochre
Golden Ochre (Chrome)

VENETIAN REDS

American Venetian Red
Venetian Red Oxide
English Venetian Red

Barrels (about 336 pounds), 50 to 100-pound drums,
and smaller packages as required.

WHITES

Silver White
White Ochre
Commercial Whiting Silica (Silex)
Dental Plaster
White Lead, Basic Carbonate
White Mineral Primer
Extra Gilders' Bolted Whiting
Plaster of Paris

ZINCS—DRY

Standard American Zinc
French Green Seal Zinc
French Red Seal Zinc

MINERAL PAINTS

French Gray Mineral
Prince's Metallic
Iron Mineral

MORTAR COLORS

Used for coloring mortar.

Buff
Dark Red
Chocolate Brown
Purple
Black

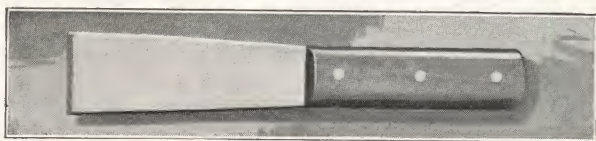
Furnished in bulk in any quantity. Put up in barrels, and 100 and 50-pound drums.

PARIS GREEN

Strictly pure, in arsenic kegs, 100 to 175-pound kegs; 14, 28, and 56-pound kits, and in $\frac{1}{4}$, $\frac{1}{2}$, and 5-pound boxes.

PITTSBURGH PLATE GLASS COMPANY

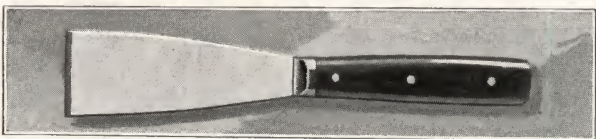
PUTTY AND SCRAPING KNIVES



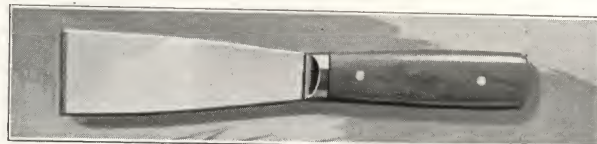
No. 100. Blade $3\frac{5}{8} \times 1\frac{5}{16}$ inches, rolled, tempered, polished, and cross polished; large natural beech handle, iron rivets. Stiff or elastic.



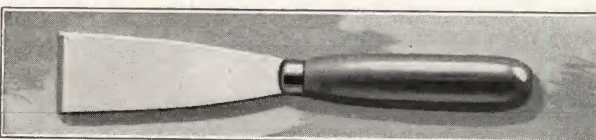
No. 107. Made exclusively for glaziers' use. Extra heavy stiff blades, only $4 \times 1\frac{3}{4}$ inches.



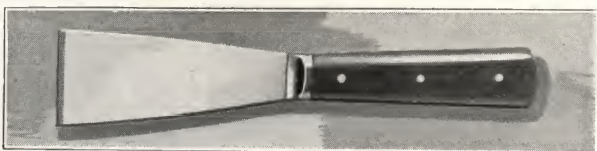
No. 101. Blade $3\frac{3}{4} \times 1\frac{1}{2}$ inches, rolled, tempered, polished, and cross polished; swelled polished walnut handle, brass rivets, medium lap metal bolster. Stiff or elastic.



No. 108. Blade $3\frac{3}{4} \times 1\frac{3}{8}$ inches, tempered, polished; French walnut handle, metal ferrule. Stiff or elastic.



No. 102. Blade $3\frac{3}{4} \times 1\frac{1}{4}$ ins., tempered, straight, polished ferrule, burnt wood handle. Stiff or elastic.

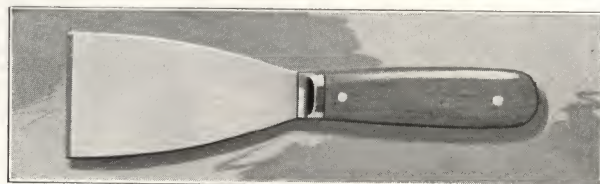


No. 109. Blade $3\frac{3}{4} \times 1\frac{1}{4}$ inches, rolled, tempered, polished, and cross polished; short lap metal bolster; swelled polished walnut handle, brass rivets. Stiff or elastic.

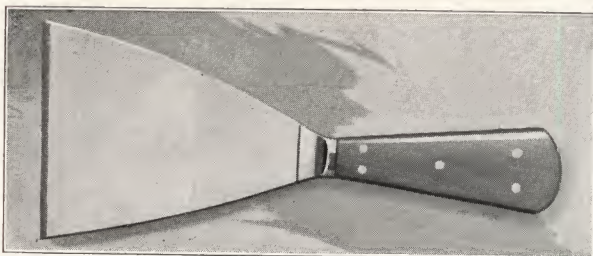


No. 103. Blade rolled, tempered, polished, and cross polished, width 3 inches; polished walnut handle, brass rivets, heavy metal bolster. Stiff or elastic. Square point only.

No. 104. Same, with $3\frac{1}{2}$ -inch blade.

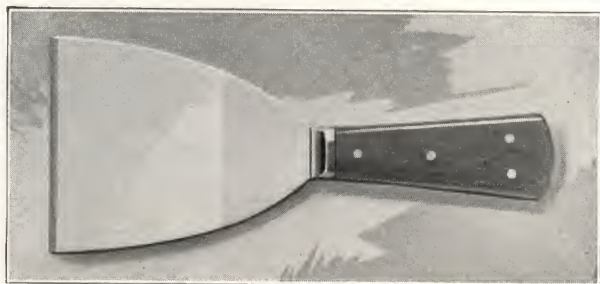


No. 110. Blade $3\frac{5}{8} \times 2$ inches, rolled, tempered, polished, and cross polished; swelled polished walnut handle with metal bolster, brass rivets. Stiff or elastic.



No. 105. Blade rolled, tempered, polished, and cross polished, 3 inches wide. Shell-ebony handle, brass rivets; heavy brass bolster, projecting $\frac{3}{8}$ inch over blade, protecting it from breaking or bending at tang.

No. 106. Same, with $3\frac{1}{2}$ -inch blade.

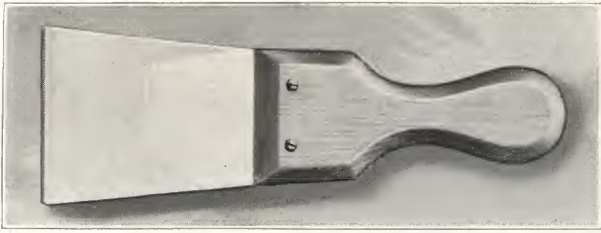


No. 111. Blade rolled, polished, and cross polished, 3 inches wide. Polished walnut handle with heavy metal bolster, brass rivets. Stiff or elastic, with clip point only.

No. 112. Same, with $3\frac{1}{2}$ -inch blade.

SUNDRIES

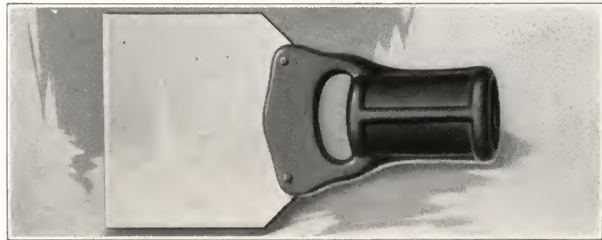
SCRAPERS, SEAM ROLLERS, KNIVES



WALL SCRAPERS

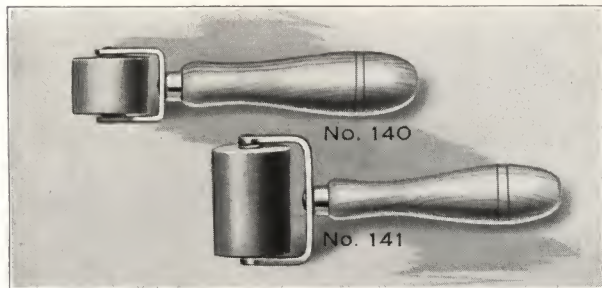
No. 120. Blade, $3\frac{1}{2}$ inches wide; beechwood handle.

No. 121. Blade, $3\frac{1}{2}$ inches wide; not beveled, beechwood handle.



SOCKET OR POLE SCRAPER

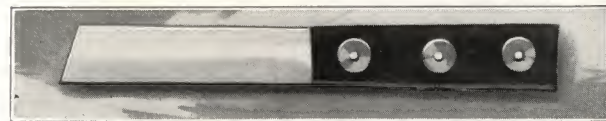
No. 122. This style of wall scraper is used on the end of a pole for scraping walls or removing wall paper. The blade is made of polished spring steel, $3\frac{1}{2}$ inches wide; malleable iron screw socket.



SEAM ROLLERS

No. 140. Genuine hard maple roller, 1-inch face; frame highly nickel-plated; polished handle.

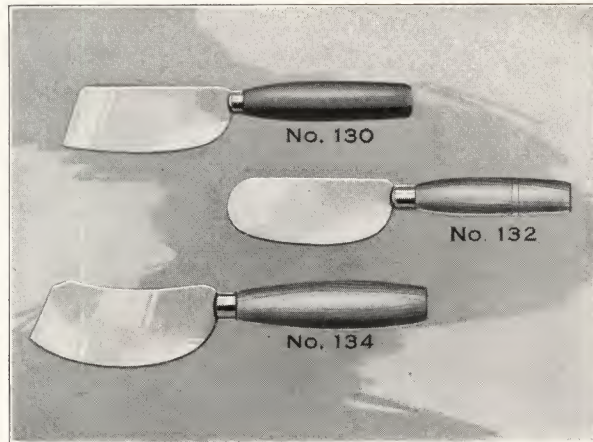
No. 141. Genuine rosewood roller, 2-inch face; nickel-plated frame; polished handle.



HACKING KNIVES

No. 143. Light blades, $4\frac{1}{2} \times 1\frac{1}{8} \times \frac{1}{8}$ inches; leather handles.

No. 144. Heavy blades, $4\frac{1}{2} \times 1\frac{1}{8} \times \frac{7}{32}$ inches; leather handles.



PAPERHANGERS' KNIVES

No. 130. Blade, $3\frac{3}{8} \times 1\frac{3}{8}$ inches, of highest grade steel, but not taper rolled; square point, stained maple handle.

No. 132. Blade, $3\frac{3}{8} \times 1\frac{3}{8}$ inches, high grade steel, taper rolled; round point, stained maple handle.

No. 134. Same, with square point.



CASING AND CORNER KNIVES

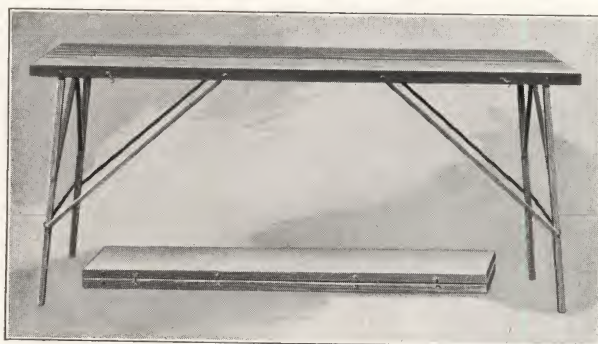
No. 150. Wheel, $1\frac{1}{2}$ inches in diameter; serrated edge; maple handle.

No. 151. Wheel, $1\frac{1}{2}$ inches in diameter; smooth edge; maple handle.

No. 152. Wheel, 2 inches in diameter; smooth edge, with thumb guard; maple handle.

No. 153. Milled Wheel and Knife Wheel, 1 inch in diameter. Knife $1\frac{1}{2}$ inches long. Serrated edge; maple handle.

PITTSBURGH PLATE GLASS COMPANY
PASTE TABLES, LADDERS, ROOF BRACKETS



FOLDING PASTE TABLES

Table top is made of clear, air-dried lumber (not kiln-dried), in two or three pieces, tongued and grooved, and glued to prevent warping. The table may be folded, as shown in the inset illustration, in ten seconds. Space inside for straight edge and tools. Height to top of table when open, 33 inches; width of top, 22 inches; folds to 11 inches. Average weight, 17 pounds. In lengths 6, 7, and 8 feet.



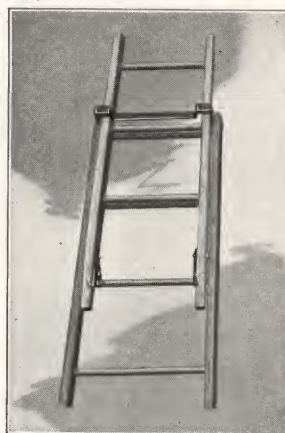
PAINTERS' LADDERS

The "Painter's Favorite." Made of selected stock, thoroughly braced, of great strength and durability. In lengths 5, 6, 7, 8, 10, and 12 feet.



STEP LADDERS

This ladder is substantially built and is suitable for all-around work. It is made of selected, char-seasoned Norway or Southern Pine. Steps are of a standard width. Stamped steel brackets are secured at top with steel rivets. Metal spreader. Iron brace rods under each step, with bucket shelf. In lengths 5, 6, 7, 8, 10, and 12 feet.



EXTENSION LADDERS

Automatic extension ladders for operation with or without ropes. Best selected Norway or Southern pine, side rails, and hickory rungs. Gravity catch or rest, requiring no spring or extra rope. Furnished in two or three sections. Upper and lower sections from 10 to 24 feet long, for extension to 20 to 44-foot lengths.

Specify total length wanted and, for extreme lengths, whether two or three sections.

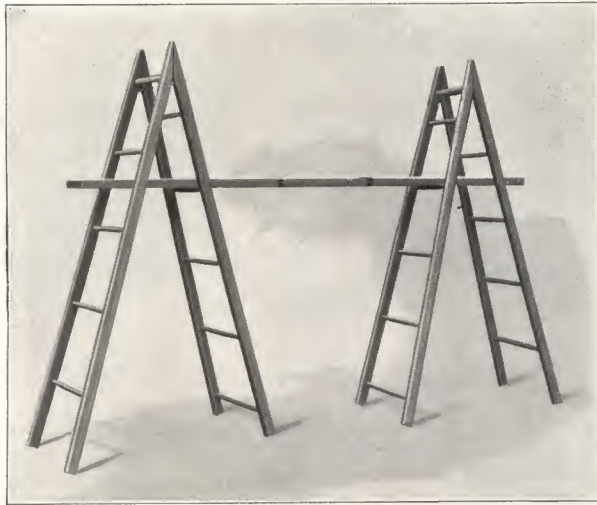
ROOF BRACKETS

Known also as safety stage supports. Placed in position by pushing the points under a shingle. So constructed that any increase in pressure increases the stability of the bracket. Made of heavy sheet steel. Sold singly or in sets of six.



SUNDRIES

TRESTLES, JACKS, TORCHES, PLANKS, STAGES, TINWARE



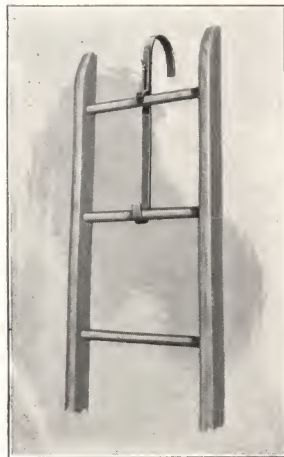
PAINTERS' TRESTLES

These trestles are made of selected pine with hickory rungs. Hinged at top by heavy wrought eye bolts. In lengths 5, 6, 7, 8, 10, 12, 14, 16, 18, and 20 feet.



LADDER JACKS

Made of heavy sheet iron, japanned, formed to fit securely over two rungs of a ladder. The slotted rack receives the free end of the upper hook in any one of the notches, which permits adjustment of the lower members to a perfect level. Furnished in pairs.



ADJUSTABLE SAFETY HOOK

Made of sheet iron, japanned. Spans two rungs of the ladder and is securely fastened by thumb set-screw. Will fit any ladder. The hook drops over ridge-board, insuring safety at roof work.



ADJUSTABLE EXTENSION PLANK

Made of ten pieces of clear Norway pine, each piece 1 inch thick by $1\frac{1}{2}$ inches wide, total width $11\frac{1}{2}$ inches. Much stronger and lighter than a solid board, more convenient to handle and safer to use.

Closed, 6 feet, extended $10\frac{1}{2}$ feet

Closed, 8 feet, extended $13\frac{1}{2}$ feet

Closed, 10 feet, extended $17\frac{1}{2}$ feet

PAINTERS' STAGE OR SCAFFOLD

Made of best clear pine, very strong and heavy. Regular stage, 20 inches wide, in 10, 12, 14, 16, 18, 20, 22, and 24-foot lengths.

Stage Hooks, 39 inches over all, clearance 21 inches.

Cross Bars with rollers.

Stirrups for cross bars.

PAINTERS' FALLS

Complete Manila rope and pulleys for Double Fall. Specify $\frac{5}{8}$ -inch or $\frac{3}{4}$ -inch rope. Lengths, 40, 50, 60, 70, 80, and 100 feet.

GASOLINE PAINT BURNERS

For burning off paint this Gasoline Torch is very efficient and economical, both for exterior and interior use. It generates a hot blue flame, and has adjustable heat pressure.

Made of polished brass. Pint and quart size.



TINWARE

Paint and Calcimine Strainers, $11\frac{1}{2}$ -inch and $13\frac{1}{2}$ -inch diameter.

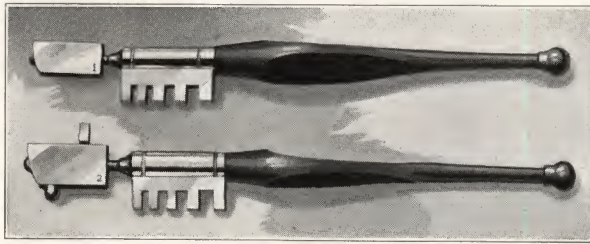
Paint and Calcimine Pails, 12 and 14-quart capacity.

Shellac and Varnish Pots, 1-pint, 1-quart, and 2-quart capacity.

PITTSBURGH PLATE GLASS COMPANY

GLAZIERS' DIAMONDS, STEEL WHEELS, CUTTERS

GLAZIERS' DIAMONDS



No. 200. Ebony handle, nickel-plated key; a good glaziers' diamond for general use.

No. 201. Rosewood handle, nickel-plated key; an excellent diamond for cutting single and double-thick glass.

No. 202. Cocobola handle, nickel-plated key; diamond of good quality and cutting spark. Recommended for heavy work and constant duty.



UNIVERSAL "SURE-CUT" GLAZIERS' DIAMONDS

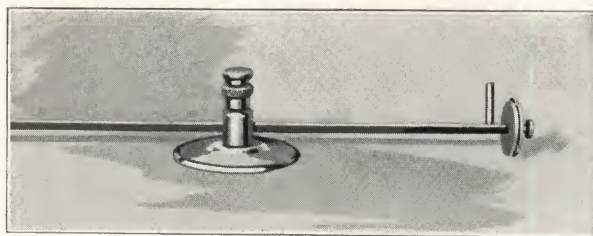
No. 204. Diamond is set in one end of the key and steel roller wheel in the other, by means of which correct angle for cutting is maintained. Key nickel-plated. For cutting single thick glass.

No. 205. Same as above with larger diamond for cutting glass of both single and double thicknesses.

GLAZIERS' DIAMOND RESET

When the diamond no longer has a satisfactory cutting point, it may be sent to us for resetting.

TURRET HEAD GLASS CUTTER



No. 206. This cutter is provided with a turret head in which are fastened six hardened steel cutting discs. The plate holding the discs may be released and new discs inserted as required. Cuts circles $3\frac{1}{2}$ to 24 inches in diameter. Rod graduated to $\frac{1}{8}$ inch. Base is made of brass and is fitted with rubber cloth mat to prevent slipping.

STEEL WHEELS



No. 208. Equipped with hand-honed, carbonized steel wheels or cutting discs. Correctly designed handle, finished in red.

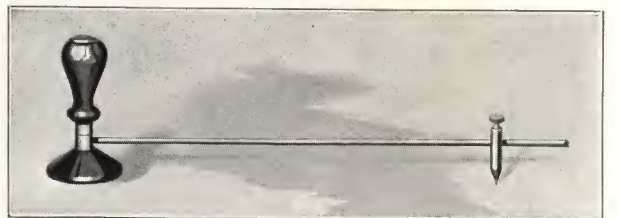
No. 209. Extra steel wheels for cutters.

"TROJAN" SELF-OILING CUTTER

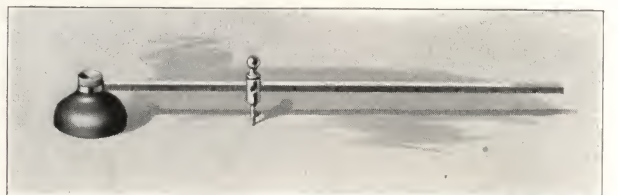


No. 210. Cutting discs or wheels are made of a specially selected grade of carbonized steel. The self-oiling feature is provided in the felt wick embedded in the head of the instrument, just below the cutting wheel. Dipped in Trojan cutting oil or kerosene, the disc is constantly lubricated, preventing chipping as well as dulling the edge of the cutter. Art glass workers find this tool especially adapted for their use.

CIRCULAR GLASS CUTTERS



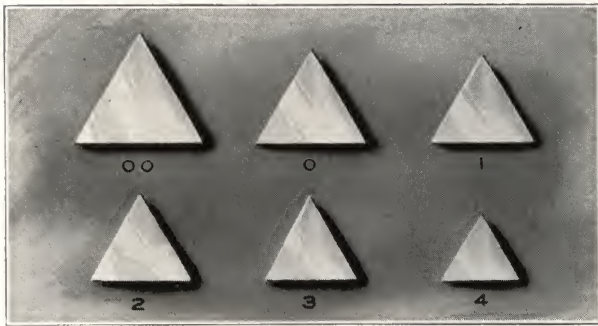
No. 211. Steel disc cutter. Cuts circles 2 to 40 inches in diameter. Round steel rod and adjustable steel head. Wooden base and handles, rubber cloth mat on face to prevent slipping.



No. 212. Steel disc cutter. Cuts circles 2 to 22 inches in diameter. Bar graduated to $\frac{1}{16}$ inch on one side. Heavy iron base fitted with rubber cloth mat to prevent slipping. Two extra cutting wheels supplied.

SUNDRIES

GLAZIERS' POINTS, DRIVERS, PLIERS, CUTTING BOARDS, RULES



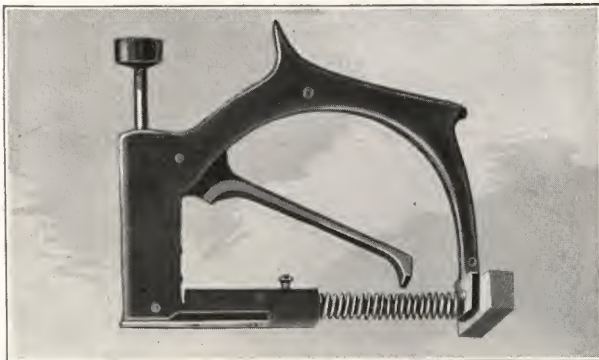
GLAZIERS' TRIANGLE POINTS

Made of pure zinc. Illustrations are exact size.



GLAZIERS' DIAMOND POINTS

May be set or driven only by using the diamond point driver shown in the accompanying illustration. Points are made of pure zinc. Illustrations actual size.



DIAMOND POINT DRIVERS

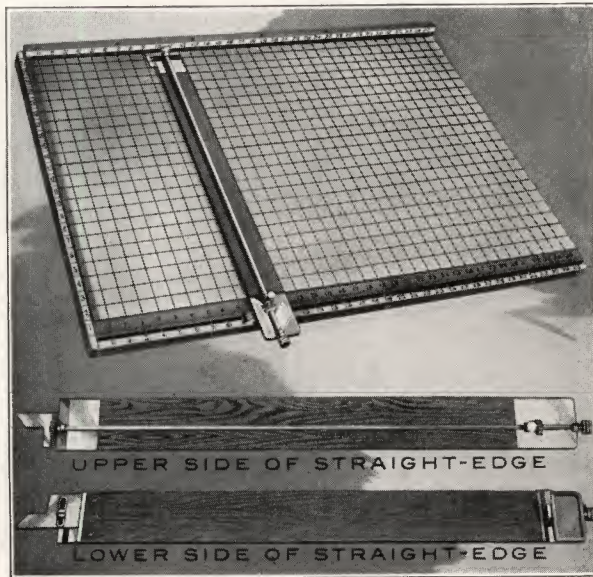
Frame is cast iron, finished in black japan, striped in bronze. Points are placed in the magazine and are fed to the barrel, one at a time. As the trigger is drawn toward the handle, the plunger is forced against the coil spring; after passing a certain point the trigger releases plunger which drives the point to its seat.

- No. 1. For No. 1 Points on small glass
- No. 2. For No. 2 Points on large glass



PLATE GLASS PLIERS

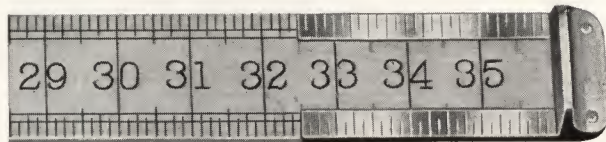
No. 3. Made of malleable iron, well finished. Tool steel inset jaws. Length over all, $8\frac{3}{4}$ inches; width of jaws, $\frac{11}{16}$ inch.



GLASS MEASURING AND CUTTING BOARD

Frame is made of seasoned lumber and is warranted to remain true. It is ruled both ways in inches, and the steel rule at the front is graduated in halves, fourths, and eighths of an inch. The straight-edge or rule is adjustable, being fitted at each end with adjustable gauges. The rule moves on metal guides and rollers, so that both ends travel the same distance. It is impossible to move one end of the straight-edge without the other. If several lights are to be cut to the same size, the straight-edge may be fastened by means of a set screw. These boards are indispensable to the dealer as they reduce breakage and make for accuracy and speed in handling.

- Size 24 x 36 inches
- Size 30 x 48 inches
- Size 36 x 54 inches
- Size 42 x 60 inches
- Size 48 x 72 inches

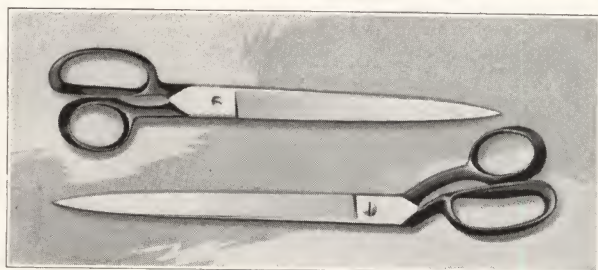


GLAZIERS' RULES

- Length 36 inches, width $1\frac{1}{2}$ inches, plain end
- Length 48 inches, width $1\frac{3}{4}$ inches, plain end
- Length 60 inches, width $1\frac{3}{4}$ inches, plain end
- Length 72 inches, width $1\frac{3}{4}$ inches, plain end
- Length 84 inches, width 2 inches, plain end
- Length 36 inches, width $1\frac{3}{4}$ inches, lip end
- Length 48 inches, width $1\frac{3}{4}$ inches, lip end
- Length 60 inches, width $2\frac{1}{2}$ inches, lip end
- Length 72 inches, width $2\frac{1}{2}$ inches, lip end
- Length 84 inches, width 3 inches, lip end

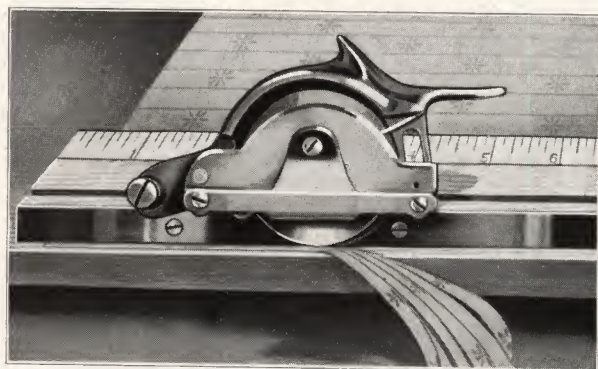
PITTSBURGH PLATE GLASS COMPANY

SHEARS, TRIMMERS, STRAIGHT-EDGES, PASTE BOARDS, DROP CLOTHS



PAPERHANGERS' SHEARS

- No. 162. 10-inch, Japanned straight handle, nicked blade.
- No. 163. 12-inch, Japanned straight handle, nicked blade.
- No. 164. 14-inch, Japanned straight handle, nicked blade.
- No. 165. 16-inch, Japanned straight handle, nicked blade.
- No. 166. 10-inch, Nicked straight handle and blade.
- No. 167. 12-inch, Nicked straight handle and blade.
- No. 168. 14-inch, Nicked straight handle and blade.
- No. 169. 12-inch, Japanned bent handle, nicked blade.
- No. 170. 14-inch, Japanned bent handle, nicked blade.



WALL PAPER TRIMMER

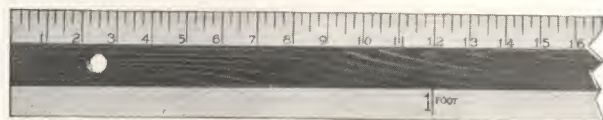
This trimmer trims lincrusta walton, burlap, and heavy pressed paper as easily as the ordinary kinds and cuts to a perfectly smooth edge. Several thicknesses of paper may be cut at one time, and each piece will be cut straight. Can be used only with a trimmer straight-edge. Straight-edge has a brass track running its full length, and the trimmer has a steel clip guide which runs on this track.

The cut is made on a strip of zinc 3 inches wide, which is laid on the cutting table or board. An outfit consists of trimmer, straight-edge, and zinc strip.

- No. 171. 6-foot outfit
- No. 172. 7-foot outfit
- No. 173. 8-foot outfit

ZINC STRIPS

- No. 175. Length 6 feet, width 3 inches
- No. 176. Length 7 feet, width 3 inches
- No. 177. Length 8 feet, width 3 inches

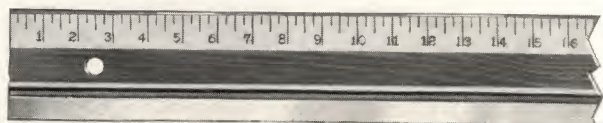


HARDWOOD STRAIGHT-EDGES

Without Brass Edge

Hard maple on outer edges, with redwood and white pine.

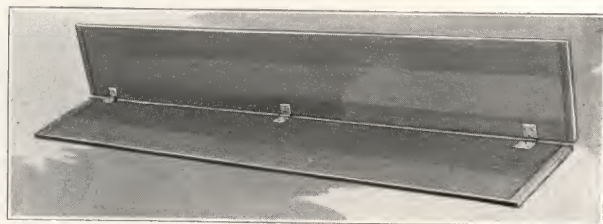
- No. 180. Length 6 feet
- No. 181. Length 7 feet
- No. 182. Length 8 feet



BRASS BOUND STRAIGHT-EDGES

Made of the very best white pine and California redwood, air dried. Built up in five sections, alternately, with grain reversed in each section. Width 3 inches, by 1/2-inch thick. Highly finished. All brass set with screws.

- No. 185. Length 6 feet
- No. 186. Length 7 feet
- No. 187. Length 8 feet



PASTE BOARDS

Paste board 1/2 inch thick, 23 inches when open, 11 1/2 inches closed. Battled ends. Three back-flap malleable hinges. Made of clear, air-dried basswood. Average weight, 11 pounds.

- No. 190. Length 6 feet
- No. 191. Length 7 feet

DROP CLOTHS

These cloths are used by painters, paperhangers, and decorators for covering merchandise while work is in progress. Supplied in three grades of fabric, Sheeting, Heavy-Drill and 8-ounce Duck, double-sewed on seams and hemmed all around. 9 x 12 feet, 12 x 15 feet, and 14 x 16 feet.

SUNDRIES

GRAINERS, CHAMOIS SKINS, SMALT, SAVOGRAN, ROOF PAINT, PACKAGES

EVERYBODY'S GRAIN- ING SET

No. 5. The set consists of a rubber grainer and a steel comb. Sold separately or in connection with Pitcairn Waterspar Colored Varnishes for producing grain effects in refinishing old work.

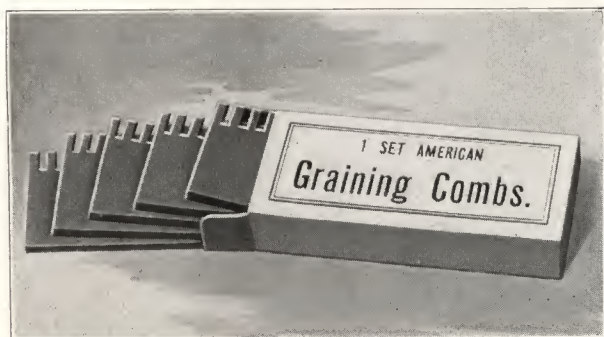


STEEL GRAINING COMBS



No. 6. Set comprises eleven steel combs assorted, having six, nine, and twelve teeth per inch. The combined width of the comb in the set is 30 inches. Packed in partitioned tinned cases.

LEATHER GRAINING COMBS



No. 7. Made of oak-tanned, pliable leather, assorted for different graining; five in a set. Combined width, 20 inches.

CHAMOIS SKINS

Our Chamois Skins are oil-tanned, without the use of alum or acids. Skins of even thickness, soft and pliable. Packed in kips of 30 skins each, and in less quantities by the dozen in the following sizes:

8 x 10 inches	16 x 21 inches
10 x 13 inches	17 x 23 inches
12 x 14 inches	19 x 25 inches
13 x 16 inches	23 x 26 inches
14 x 18 inches	26 x 28 inches
15 x 20 inches	

SMALT

Smalt is a vitreous sand furnished in various screenings and colors for signwriters' and painters' use. Used for decorative effect by the signwriter to produce brilliancy and sparkle, as the facets of the glass particles reflect light; also used by painters for the protection of a painted surface subjected to wind and weather. Furnished in 25-pound sacks, two sacks to a carton, and in bulk. Colors: Black, blue, maroon, and green.

SAVOGRAN

Savogran is a dry powder used by painters and decorators to remove grease, smoke stains, dirt, loose flakes, and discolorations from painted and varnished surfaces before repainting or revarnishing. It does not remove filling, or discolor the wood. It is used also for removing paint from glass, marble, and metal work. Put up in bulk; may be had in any quantity.

ROOF LAST CARBON PAINT

Roof Last Carbon Paint is well known as a weather and waterproof paint of great durability. It is extensively used on shingle, metal, or felt roofs, also pumps, pipes, storage tanks, fences, iron and steel work, boilers, stacks, and farm implements. It is used also as a preservative and decay-resistant on fence posts, telegraph and telephone posts. Put up in 1 and 5-gallon cans, half-barrels of 25 gallons, and in full barrels of 50 gallons.

EMPTY PACKAGES

Empty varnish cans as follows:

- 1/6-gallon square varnish cans
- 1/8-gallon square varnish cans
- 1/4-gallon square varnish cans
- 1/2-gallon square varnish cans
- 1-gallon square varnish cans
- 5-gallon square cans, boxed
- 2-gallon jacket cans
- 3-gallon jacket cans
- 5-gallon jacket cans
- 10-gallon jacket cans

PITTSBURGH PLATE GLASS COMPANY

GOLD AND ALUMINUM ENAMELS, BRONZE POWDERS AND LIQUIDS, LEAF

PITCAIRN GOLD ENAMEL

In special cans, Gold and Liquid in special compartments ready for mixing; also bottles, ready-mixed. For picture frames, radiators, and general household decoration, or for any article of iron, leather, wood, or glass.



- No. 1 Size contains 1 oz. (Ready-mixed in bottles)
- No. 2 Size contains 2 oz. (Compartment cans)
- No. 3 Size contains 4 oz. (Compartment cans)
- No. 4 Size contains 8 oz. (Compartment cans)

PITCAIRN ALUMINUM ENAMEL

In special cans, Aluminum Powder and Liquid in separate compartments ready for mixing; also bottles, ready-mixed. For bedsteads, gas fixtures, radiators, bric-a-brac, and general household decoration.



- No. 1 Size contains 1 oz. (Ready-mixed in bottles)
- No. 2 Size contains 2 oz. (Ready-mixed in bottles)



- No. 3 Size contains 4 oz. (Compartment cans)
- No. 4 Size contains 8 oz. (Compartment cans)

BRONZE POWDERS

Pale Gold is color of Gold Leaf, Rich Gold is Brass Color. Five grades, according to quality—No. 500, No. 1000, No. 2000, No. 4000, No. 8000.

Each grade furnished in Pale Gold or Rich Gold, 1-ounce papers, 1-pound cans, 50-pound drums.

Decorators' and Fresco Bronzes

Pale Gold Fresco, Extra Superior Fresco, Pale Gold, French Pale Gold Leaf Bronze. 1-ounce papers, 1-pound cans, 50-pound drums.

Aluminum Bronze Powders

C. P. Aluminum, Extra Superior Fresco Aluminum, Commercial Aluminum. 1/2-pound cans, 1-pound cans, 50-pound drums.

Radiator Bronzes

Pale Gold Radiator, Extra Fine Pale Gold Radiator, Copper, C. P. Aluminum Radiator. 1-pound cans, 50-pound drums.

Colored and Special Bronzes

For the manufacturing trade, decorators; metallic fixtures, statuary, moulding and frame makers.

The many shades of Colored Copper Bronzes, Patented Bronzes, Aniline Dyed Shades, Fire Bronzes, Antique Bronze Statuary, Vernis Martin and Roman Gold, Brass Fixture Bronzes. In 1/2-ounce and 1-ounce papers, 1-pound cans, 50-pound drums.

BRONZING LIQUIDS

1. Manhattan—Commercial Grade. 2. Empire—Medium. 3. Pitcairn—Highest Grade Liquid. In cans: 1/2-pint, pint, quart, 1/2-gallon, 1-gallon; and in half-barrels and barrels for the manufacturing trade.

The Bronze Powders are ready for use when mixed with the Bronzing Liquid to proper consistency for application. For average surfaces 1 pound Gold Bronze Powder to 1/4 gallon Liquid; 1 pound Aluminum to 1 gallon Liquid.

With the proper liquid, the bronzes listed dry out quickly to a smooth flat finish, and when dry are free from odor. Best results are obtained by applying bronzes with soft hair brushes; camel or goat hair.

GOLD, SILVER, AND ALUMINUM LEAF

For decorators' and signpainters' use.

Gold Leaf XX Deep (for interior use)

Gold Leaf Patent (for exterior use)

All Gold Leaf is 3 3/8 x 3 3/8 inches. 25 leaves to the book and 20 books to the pack.

Silver Leaf, 3 3/4 x 3 3/4 inches. 25 leaves to the book; 20 books to the pack.

Aluminum Leaf, 5 1/2 x 5 1/2 inches. 50 leaves to the book; 10 books to the pack.

ALUMINUM PAINT, READY-MIXED

For use on iron, stoves, ranges, boilers, engines, smoke stacks, furnace fronts, oven interiors. One gallon will cover about 300 square feet, one coat, on metal surface. 1-gallon cans, ready-mixed.

SUNDRIES

LEADS, LINSEED OIL, PUTTY

WHITE LEAD

Strictly pure White Lead, dry, and in oil. Popular brands supplied in original packages; 1 and 5-pound cans, 12½, 25, 50, and 100-pound kegs, and barrels.

LEAD OXIDES

Red Lead, dry, and in oil, 12½, 25, 50, and 100-pound kegs. Litharge and Orange Mineral dry only; in kegs or in quantities as required.

AMERICAN WHITE

A combination paste, white, ground in oil, for plumbers' use and general utility purposes. 1 and 5-pound cans.

WHITE COTTON WASTE

For painters, mechanics, garages, and general use. In bales 100-pound, 50-pound, and in bulk as desired.

STRICTLY PURE PUTTY

Made from pure whiting and linseed oil. A reliable putty recommended to those desiring the best grade.

Put up in 900-pound barrels; 500-pound half-barrels; also 100, 50, and 25-pound packages.

STANDARD PUTTY

This is an intermediate grade of putty for general glazing purposes.

Put up in 900-pound barrels; 500-pound half-barrels; also 100, 50, and 25-pound packages.

COMMERCIAL PUTTY

This grade of putty is made for ordinary use.

Put up in 900-pound barrels; 500-pound half-barrels; also 100, 50, and 25-pound packages.

STEEL SASH PUTTY

For glazing metal sash. Specially prepared for adhering to glass and metal. Dries hard but not brittle. Does not shrink or crumble.

Put up in 900-pound barrels; 500-pound half-barrels; also 100, 50, and 25-pound packages.

LIQUID GREENHOUSE PUTTY

For application with glazing gun, putty bulb, or with putty knife.

Put up in barrels, 100-pound and 25-pound kegs.

LINSEED OIL

Strictly pure, raw and boiled, sold by weight, seven and one-half pounds constituting a gallon; in drums, barrels, and in smaller containers as required.

TURPENTINE

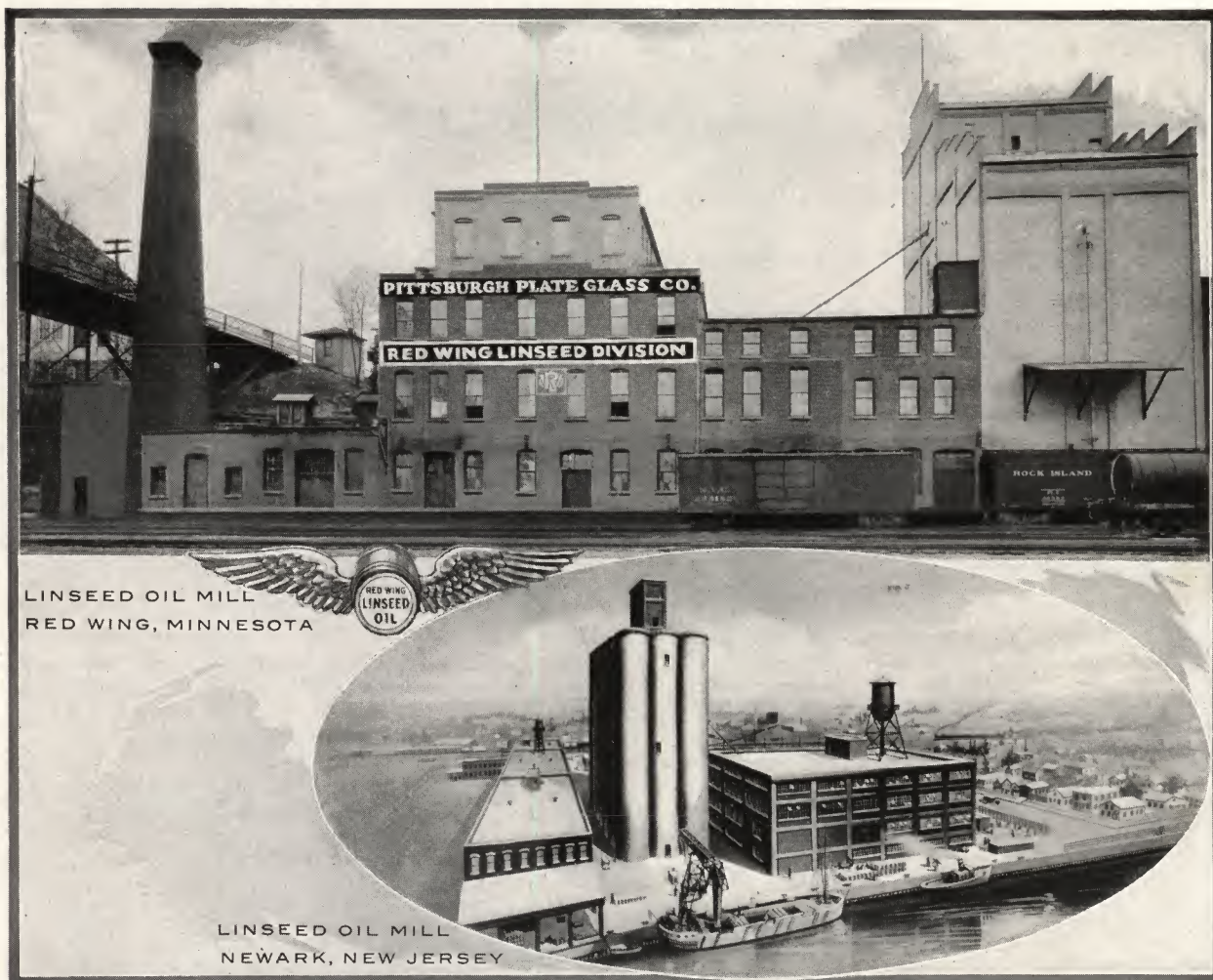
Pure gum spirits of Turpentine, sold by weight, seven pounds constituting a gallon; in drums, barrels, and in smaller quantities as required. (See also Lep-tyne, the superior Paint Thinner.)

DENATURED ALCOHOL

For cutting shellac gums, thinning shellac varnishes, spirit stains, varnishes, and for use as an anti-freeze solution in water-cooled motors. Denatured in accordance with U. S. Government formulas, 180° and 188° proof; in drums, and in smaller containers as required.



Dry Color on Racks in Drying Room, Milwaukee Factory



RED WING QUALITY LINSEED OIL

RED WING LINSEED OIL has been manufactured and marketed for more than twenty years by our mill at Red Wing, Minnesota. It is produced from the very choicest flaxseed obtainable. Every care is exercised, from the cleaning of the seed to the filling of the container in which the oil leaves the mill, to produce the very highest grade of Oil that can be made. Every mill operation is under the actual control and thorough supervision of the experienced chemists and associates in charge of our laboratory.

The Linseed Oil Mill at Newark, New Jersey, is advantageously located, not only for convenience to the imported raw material and the distribution of the finished product in the eastern territory, but also for the export of the oilcake, an important by-product of Linseed Oil manufacture, most of which finds its market in Europe. The ultimate capacity of this plant will be 1,500,000 bushels of flaxseed.

Linseed Oil is marketed for the most part in two forms, "Raw" and "Boiled," except when special oils

are required for special purposes. Raw Linseed Oil is the oil in its natural state. Every gallon of Red Wing Quality Raw Linseed Oil is filtered several times and properly aged, the result being a perfectly clear product.

Boiled Linseed Oil is made from Red Wing Quality Raw Linseed Oil and pure Linoleate Drier, which we make according to our own formula. The boiling process consists of two distinct operations: one, the manufacture of the pure lead-manganese Linoleate Drier, and the other, the preparation of the Raw Oil for the incorporation of the Drier. After these two are thoroughly blended, the Oil is allowed to cool for days. It then goes through our special process of clarification, which results in a clear, brilliant Oil, possessing the same perfect brushing qualities as our Raw Linseed Oil, and drying to a smooth, elastic film in from twelve to sixteen hours.

Red Wing Quality Boiled Linseed Oil contains no rosin or resinates of any kind.

THE PITTSBURGH PLATE GLASS COMPANY SYSTEM OF DISTRIBUTION, EDUCATION, AND SERVICE

THE Pittsburgh Plate Glass Company, early in its experience as a manufacturer of Paints, Varnishes, Brushes, and kindred commodities, solved the important problem of distribution.

This was accomplished by the establishment of a nation-wide delivery service through a complete warehousing system, each unit equipped with full stocks and facilities for delivering the Company's products wherever needed, and in any desired quantity.

This system today is the most complete of its kind in the world. The Warehouses are not simply stock rooms or selling agencies; they are local institutions equipped to serve in all ways the territories in which they are established. The managers of these Warehouses and their associates are men long trained in the principles of the Company, thoroughly informed by experience on all points concerning Paint and its application, and competent to give full information and instruction on matters the most technical.

SERVICE TO DEALER AND CONSUMER

"Service," as understood by the Pittsburgh Plate Glass Company, means this:

Systematic and harmoniously directed activities of manufacturing, distributing, and warehousing and selling organizations, all inspired by the principle that customers of the Pittsburgh Plate Glass Company are to receive something more than is ordinarily meant by "service."

Raw materials economically produced, mostly from Company-owned properties, and economically delivered to wisely located plants, making possible a basic saving that benefits both the dealer and the consumer of the paint product.

Direct and constant contact of manufacturing organizations with the market through the distributing Warehouses and Sales Offices, resulting in quick adjustment of production to meet the conditions of all times and circumstances.

The organization and equipment of each Warehouse to be, not merely a distributing and selling station, but a commercial member of the region

it serves, of actual use to the community, and a force co-operative with all in the business.

EDUCATIONAL SERVICE

The sales force in each territory is similarly equipped with exact knowledge. In addition the staff includes specialists in various branches, men skilled in the standard practice of painting and finishing, whose advice is available at all times. Educational service is freely given wherever it may be of benefit to the community, to dealers, or to individual users.

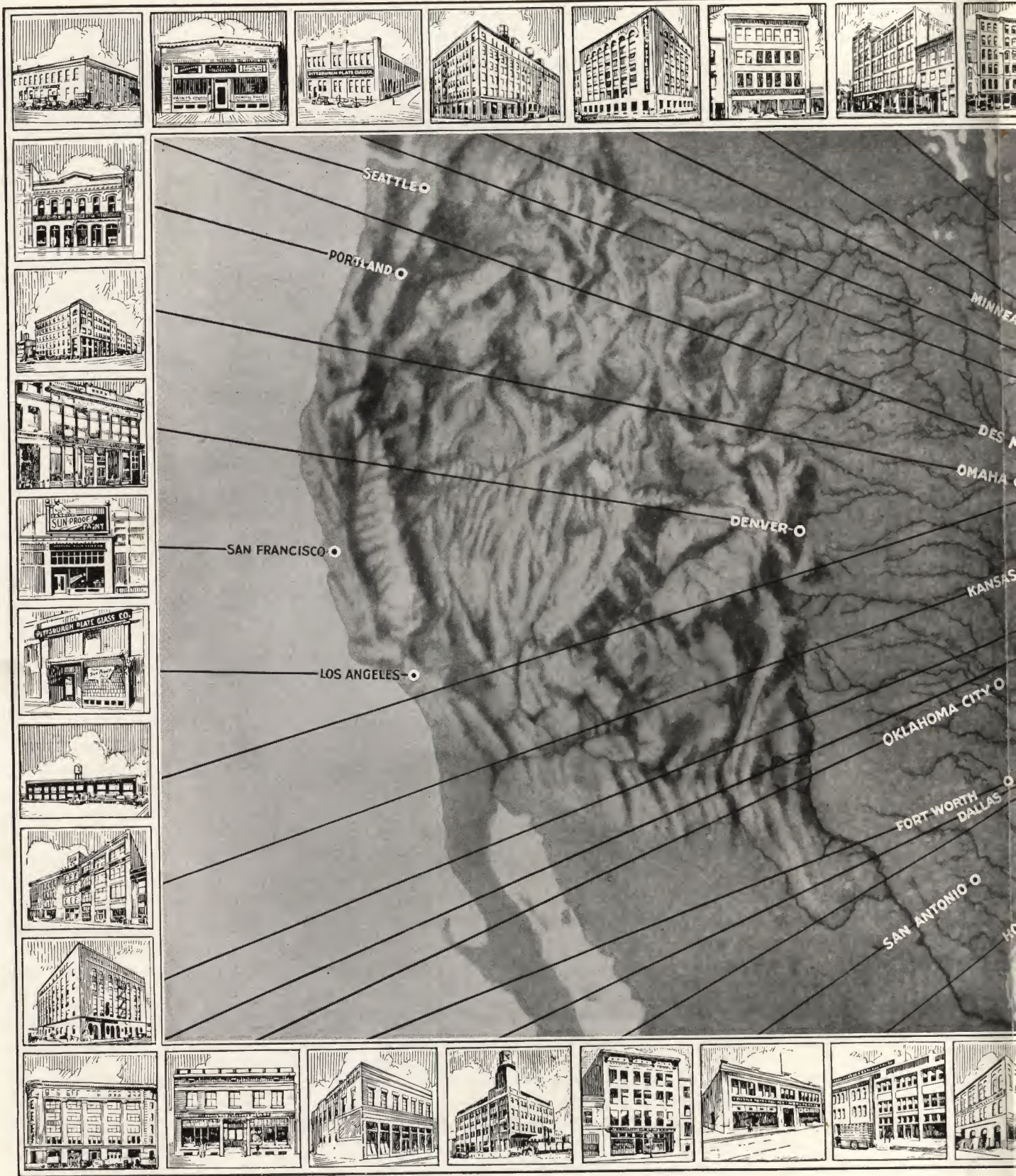
National advertising is continuous, and its governing principle is that of helping the dealer, the architect, and the contractor—in a word, everyone in the trades who uses paint as a large or small part of his business. Going even further, the Company's advertising benefits the public, while it profits the dealer, by teaching the surface-saving properties of good paint and the other genuine advantages to be obtained by using proper paints.

THE COMPANY'S EMPLOYEES

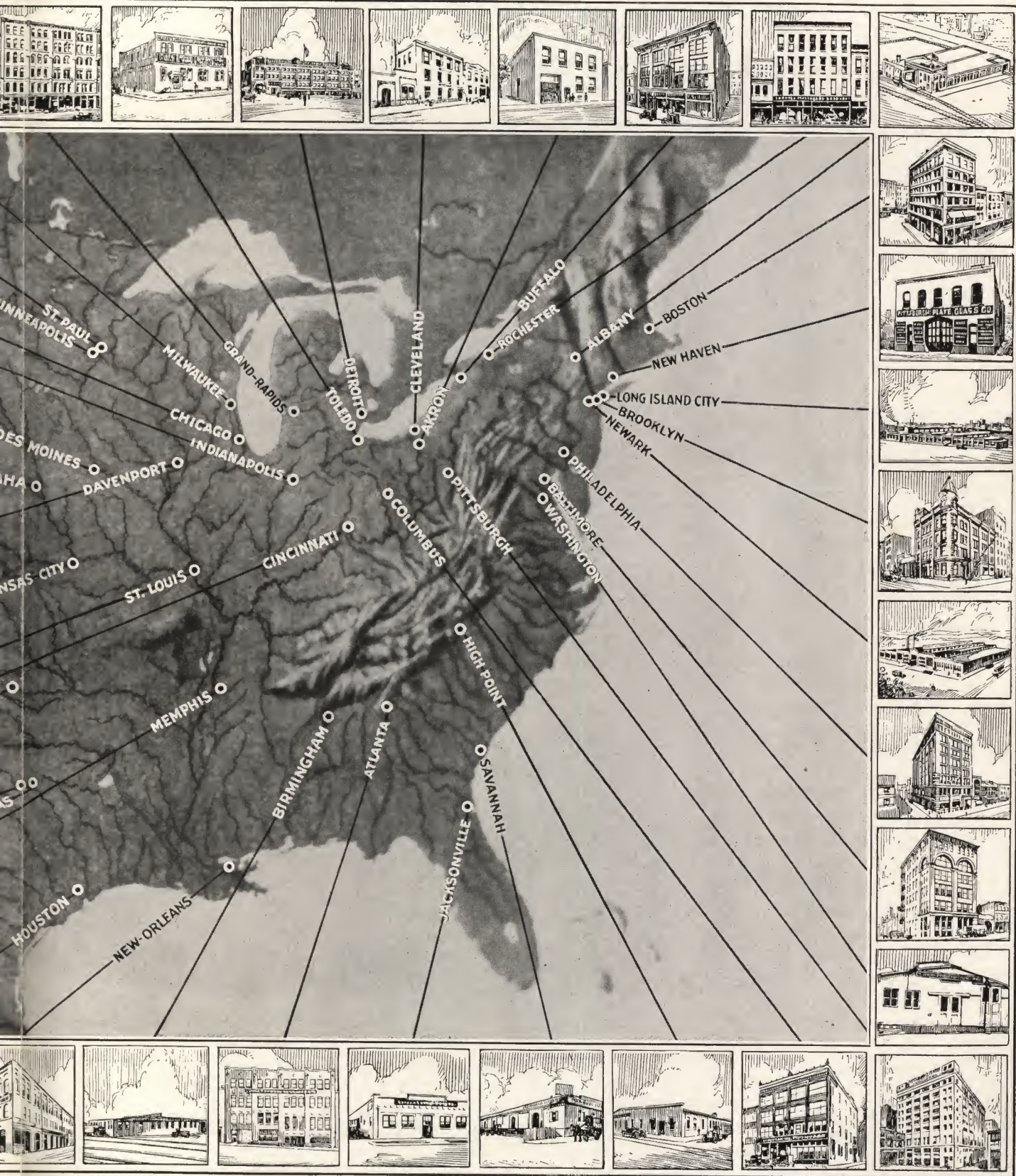
No degree of genius in administration, no system or equipment, can alone attain and maintain quality. It is essential that the men directly engaged in every department of a manufacturing business shall have a personal work-pride in producing the best results obtainable.

The consumer of any manufactured material, and likewise the dealer, have a direct business interest in the conditions under which it is produced. The assurance of steady and prompt supply and, more important still, the quality of the product, depend in a very real sense upon the spirit of the workers responsible for it.

From this point of view it will be of interest to customers to know that a large number of the Company's employees have devoted the whole working period of their lives to its service, and that the "labor turnover" in the various plants of the Pittsburgh Plate Glass Company is perhaps smaller than that of any other great manufacturing business in the United States.



Warehouse System of the Pitt



Pittsburgh Plate Glass Company

PITTSBURGH PLATE GLASS COMPANY

LOCATION AND ADDRESSES OF PITTSBURGH PLATE GLASS COMPANY'S WAREHOUSES

AKRON, OHIO	101 Lincoln Street
ALBANY, N. Y.	North Ferry Street, East of Broadway
ATLANTA, GA.	56-60 West Alabama Street
BALTIMORE, MD.	8-12 South Paca Street
BIRMINGHAM, ALA.	Second and 29th Streets
BOSTON, MASS.	99-103 Portland Street
BROOKLYN, N. Y.	Third Avenue and Dean Street
BUFFALO, N. Y.	101-107 Seneca Street
CHICAGO, ILL.	431-451 St. Clair Street
CINCINNATI, OHIO	Broadway, Court Street and Eggleston Avenue
CLEVELAND, OHIO	3849 Hamilton Avenue
COLUMBUS, OHIO	133-135 East Spring Street
DALLAS, TEXAS	Pearl Street and Pacific Avenue
DAVENPORT, IOWA	414-428 Scott Street
DENVER, COLO.	Twenty-sixth and Blake Streets
DES MOINES, IOWA	108 East Fourth Street
DETROIT, MICH.	Hamilton and Holden Avenues
FT. WORTH, TEXAS	1105-1107 Calhoun Street
GRAND RAPIDS, MICH.	21-23 Ionia Avenue, S. W.
HIGH POINT, N. C.	431 Hamilton Avenue
HOUSTON, TEXAS	Crawford and Commerce Streets
INDIANAPOLIS, IND.	1915 Madison Avenue
JACKSONVILLE, FLA.	1530 Enterprise Street
KANSAS CITY, MO.	Fifth and Wyandotte Streets
LONG ISLAND CITY, N. Y.	193-219 Hunters Point Avenue
LOS ANGELES, CALIF.	928 South Main Street
MEMPHIS, TENN.	181-185 Madison Avenue
MILWAUKEE, WIS.	486-496 Market Street
MINNEAPOLIS, MINN.	616-628 South Third Street
NEWARK, N. J.	Elizabeth Avenue and Peddie Street
NEW HAVEN, CONN.	184 Brewery Street
NEW ORLEANS, LA.	Girod and Commerce Streets
OKLAHOMA CITY, OKLA.	116-118 East Grand Avenue
OMAHA, NEBR.	Fourteenth and Jones Streets
PHILADELPHIA, PA.	Arch and Eleventh Streets
PITTSBURGH, PA.	632-642 Duquesne Way
PORTLAND, ORE.	184 Second Street
ROCHESTER, N. Y.	149-153 State Street
SAN ANTONIO, TEXAS	1420-1426 South Alamo Street
SAN FRANCISCO, CALIF.	985 Mission Street
SAVANNAH, GA.	731-733 Wheaton Street
SEATTLE, WASH.	316 Westlake Avenue, North
ST. LOUIS, MO.	Tenth and Spruce Streets
ST. PAUL, MINN.	459-461 Jackson Street
TOLEDO, OHIO	2410-2416 Albion Street
WASHINGTON, D. C.	Fourth and Channing Streets, N. E.

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